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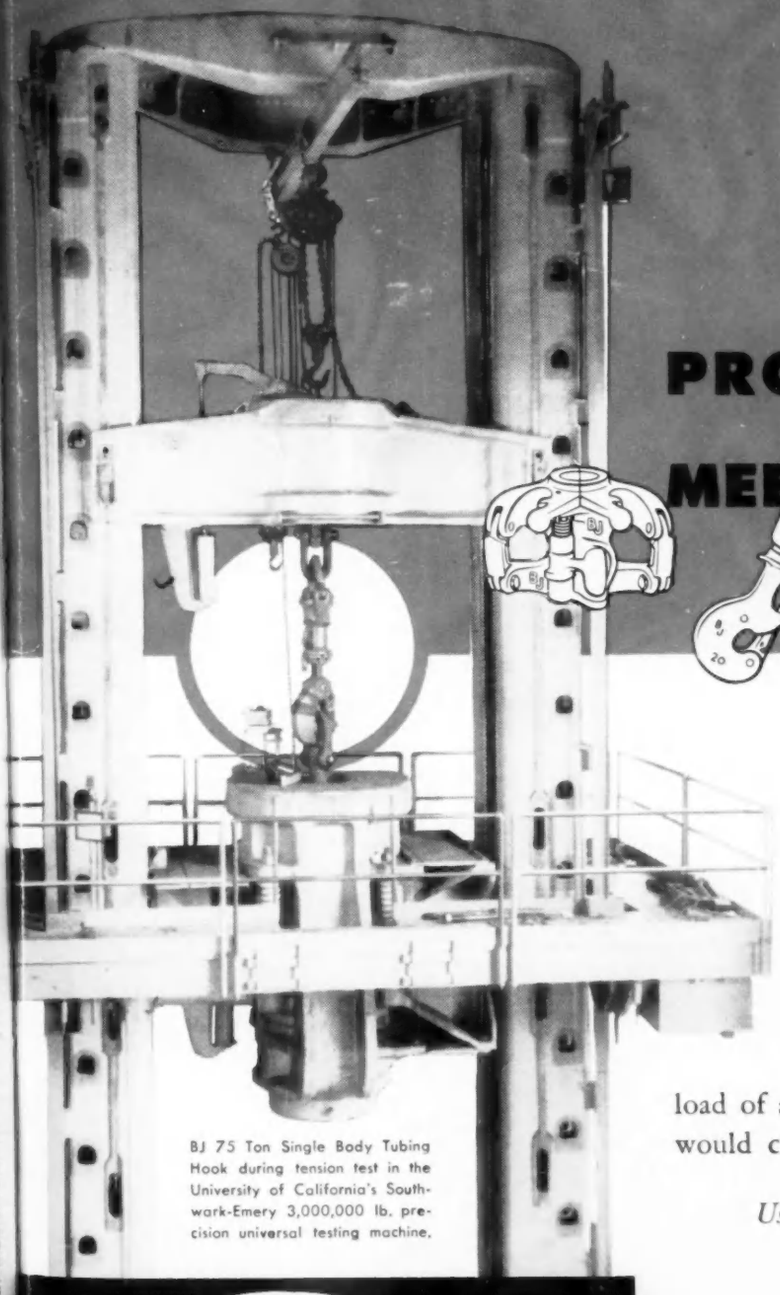
The OIL WEEKLY

JAN 1946

FOR THE DRILLING, PRODUCING, PIPE LINE INDUSTRY



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December 31, 1945

Volume 120, NUMBER 5

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PETROLEUM REFINER and The REFINERY CATALOG for the refining-natural gasoline industry

The OIL WEEKLY

ENGINEERING • NEWS • STATISTICS

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LOOKING AHEAD
. . . with the Editor

MILITARY type vehicles are providing convenient means of testing and experimenting with the kind of car and truck best suited for the rough-and-ready demands in oil field and exploration work. For a long time, the industry has felt the need for vehicles that would stand up under the severe duty required, especially in undeveloped territory.

When the war came, automobile manufacturers developed sturdy equipment that would enable the Army to keep rolling over almost any type of country. Stronger springs, six and four-wheel drives, with other special construction features enabled military vehicles to traverse certain types of ground that would be impassable to a conventional type truck.

A few oil companies have been experimenting with some of these trucks and cars and are finding them to have excellent qualities of endurance and adaptability to oil country transportation of the roughest kind. The vehicles have been modified in a few details and supplied with other features needed to make them suitable for the type of work to be done.

H. B. Kniseley, of The Carter Oil Company, gives the details on the use being made of these reconverted military vehicles, and discusses their possibilities as well as their defects, in an article soon to appear.

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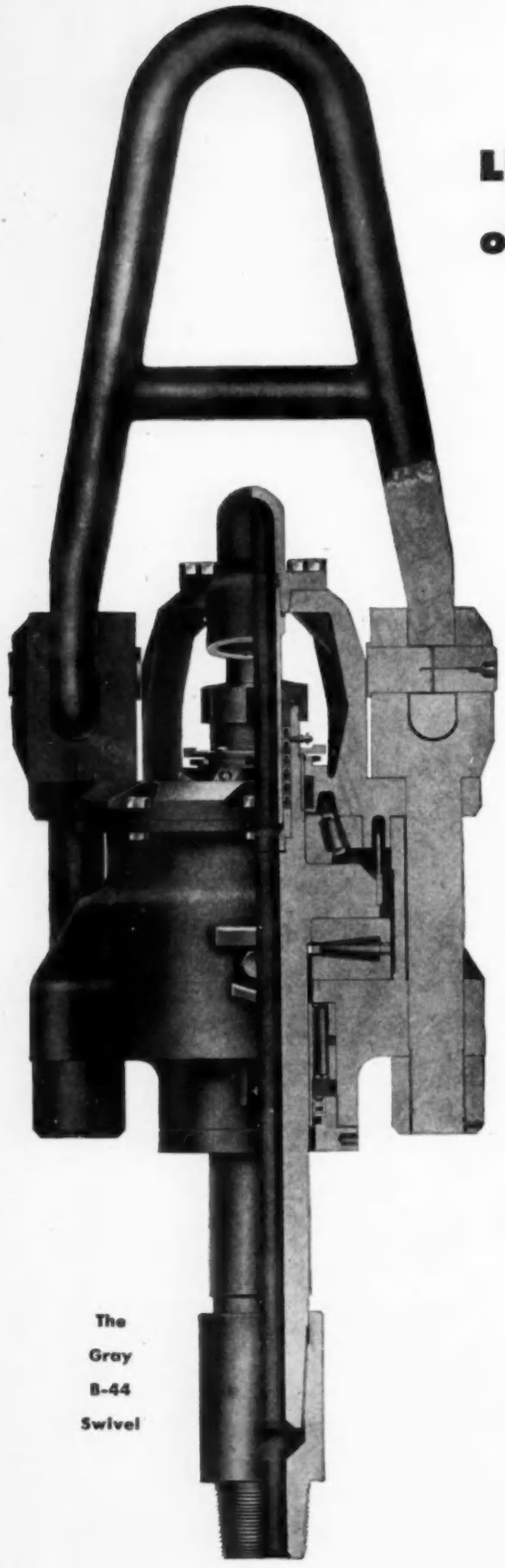

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LUBRICATION Is the Life Blood of Your Rotary Swivel

GRAY Rotary Swivels are precision tools, manufactured to close tolerances, and are designed to give long, trouble-free service. The operator will get the service which has been built into a GRAY Rotary Swivel if it is properly **lubricated, handled and maintained.** Proper lubrication at regular intervals should be made the first **must** on your list of things to do to keep your GRAY Rotary Swivel in operation. Here are some specific recommendations:

Bearings — Bearings are critical. **Do not use grease — use only mild type extreme pressure gear oil S.A.E. 140.** If not in use, keep lubricant in the housing to protect bearings.

Wash Pipe Packing Unit—This unit should be lubricated frequently, since the grease serves to wash out any mud that may have passed the lower packing rings, and serves to renew the packing units.

Upper Oil Bath Packing—This should be lubricated at the same time as the wash pipe packing unit, so as to keep the packing pliable.

Bail Bolt Pins—Each of the bail bolt pins should be greased frequently, using the Alemite connection provided.

Gray swivels provide more strength with less weight

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The Outlook

More and more pressure is being exerted for and less opposition is noted against an increase in the price of crude oil. The independent must be kept in business. His contribution toward discovering new oil is invaluable and he must be encouraged to continue prospecting.

* * * *

Current fuel oil shortages and a weak gasoline market are contributing to increased agitation for the elimination of OPA price controls over crude oil and refined products. John C. Day, manager of Western Petroleum Refiners Association, Tulsa, believes that if such controls are eliminated the situation would correct itself quickly.

* * * *

Three members of the Special Senate Committee on National Defense, leaving the United States last week for a round-the-world, first-hand study of surplus property abroad are expected to learn something regarding the use made of oil material exported during the war at Bahrein and other points in the Middle East which will be visited.

* * * *

Growing indications that the fact-finding method of settling industrial wage disputes, involving investigation of employers' books, will prove futile will throw the whole question of labor relations into the lap of Congress and open the field up for a searching debate on union ambitions and policies.

* * * *

The oil industry has a considerable interest in the efforts of Governernor Arnell of Georgia to overthrow the traditional railroad freight-rate structure, now before the Supreme Court. Success of the move to obtain lower rates for the South and Southwest would mean lower costs for oil-field and other equipment in several important areas.

* * * *

The Department of Justice plans to prosecute its "Mother Hubbard" suit vigorously, hopeful of getting it through the District of Columbia court during the coming year so that a final Supreme Court decision may be had early in the 1946-47 term. There also is the unvoiced hope that the companies involved will come in for a consent decree which would cut the proceedings even shorter.

* * * *

The State Department will press for elimination of artificial barriers against United States products in foreign countries at the international trade conference to be held early next year, but officials admit that such action alone will not solve all troubles of companies operating abroad. Lack of dollars with which to pay for purchases from this country is an important basic factor in the situation, was the whole motive of the British in the negotiation of the $3.75 billion advance which Congress is shortly to pass upon.

* * * *

The coming year will see oil problems a subject of major consideration in all parts of the world. Far from greasing the wheels of international cooperation, petroleum will be a point of friction as the major producing countries, despite proposed agreements, jockey for place. As an instance, Russia's efforts to dominate Eastern Europe have their importance in oil as well as in politics.

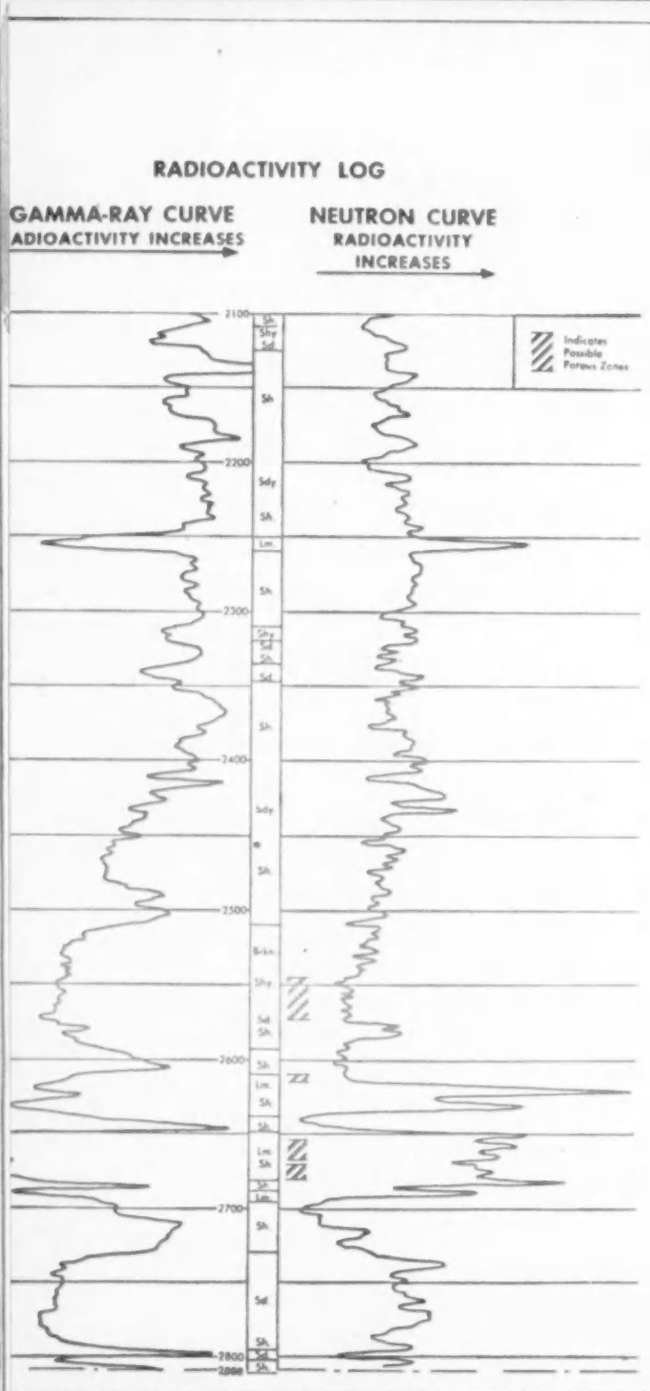
* * * *

Close attention being given rehabilitation of veterans as they are taken back into oil companies is likely to result in improved personnel policies. Through the follow-up system as applied to veterans, personnel departments are gaining new insight into their functions.

* * * *

Full-fledged aviation departments can be expected to become an integral part of many more oil companies. There is a keen awareness of the growing importance of air transportation in the minds of oil industry leaders.

Radioactivity Well Logging



MAKES POSSIBLE OIL PRODUCTION BASED ON ACCURATE WELL RECORDS

Continued profitable operation of many of the country's oil wells will be possible only if the ultimate production potential is completely achieved. Many wells will be re-completed and secondary production recovered.

Radioactivity Well Logs – both Gamma Ray and Neutron – aid by providing the Operator with accurate well records. Secondary zone location can be accurately made for opening and testing by Lane-Wells Gun Perforator.

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The Changing Panorama

Industrial Strength Is Due to Patents

AN ISSUED patent is a spur to continued intellectual effort, a kind of battle stripe or personal "E" award, in the opinion of Dr. E. R. Weidlein, director of the Mellon Institute of Industrial Research. "It is a matter of national thanksgiving that we had available a vast storehouse of knowledge as represented by the 2,275,079 patents which had been granted prior to Pearl Harbor, and which made possible our weapons of defense," he said recently. Fundamental and applied research developed in this country since World War I was largely responsible for winning World War II.

The National Patent Planning Commission has reached the conclusion, according to Weidlein, that the American patent system is the best in the world. The system has operated so successfully because it is based on a sound understanding of human nature, and is no more outmoded than human nature.

Because of the patent system, "There has been no ceiling on the making of inventions in this country. Truly free enterprise, such as we have always had in the United States, has more initiative than totalitarianism could ever inspire."

Vociferour opponents of our patent system, as pointed out by Weidlein, have been those who are not only completely unfamiliar with the internal operations of modern competitive industry, and loudly unsympathetic with the economic system by which our country has attained its present position of eminence.

The patent system does not stand condemned. Instead it is the commission's conclusion that this country's industrial strength is due in large measure to patents. The system is a bulwark not lightly to be cast aside.

Wet Nurse Economists

THE life expectancy of an American baby before he has his first bath is the highest it has been since Adam had 'em. This is due to free enterprise in medical research and care. As the life chance of babies goes up, and their death risk goes down, you'd expect to buy life insurance cheaper. But, no. Our wet nurse economists have fixed things so you pay more. They have forced down the earnings of insurance companies faster than medical science has prolonged life. So the companies have to charge us higher premiums to make up for their shrinking income.

"This side of 'guaranteed' security is worth looking at. You pay more dough for the guaranty and get less security."

—SAMUEL PETTINGILL

Request

Early in November a letter went out to subscribers asking for suggestions of subjects which they would like to see treated by *The Oil Weekly* during the coming year. Several hundred of these already have been returned and others are coming in by every mail.

This is merely a suggestion to those who have put the letter aside to root it out, jot down your thoughts in the spaces provided and get it on its way back to The Editor.

Every suggestion is carefully considered and, it may safely be said, many of the articles that appear in *The Oil Weekly* stem directly from this subscriber comment.

So we'll be obliged if you'll get yours in today.

Texas Gas Group Does a Splendid Job

THE Texas Oil Industry Gas Committee is to be congratulated for its report on the conservation of gas (THE OIL WEEKLY, December 24, 1945, page 32).

The committee was assigned a most difficult task. Members spent many long hours studying the problem and in drafting its recommendations. They discussed the pros and cons of many controversial phases. These problems were overcome, and members were able to prepare a report containing definite recommendations. If adopted and enforced, these recommendations would conserve large quantities of gas.

Many may criticize the report. It touches upon too many controversial phases to meet with full agreement. Some will be critical of it because it may "step on their toes." Others probably will say the report is too far-fetched. Others likely will declare the recommendations do not adequately consider economic phases.

However, from an overall industry and conservation viewpoint the recommendations appear sound. They deserve careful consideration by operators—who should bear in mind the importance of the question of conserving gas.

How Much Oil for A Christmas Turkey

OPA officials who have consistently blocked a boost in the price of crude despite industry testimony, might be more impressed with the justice of the case if they are made to realize that it took 25 barrels of production to pay for the average Oklahoma oil man's Christmas turkey dinner.

This novel and down-to-earth computation was arrived at by Claude V. Barrow, oil editor for *The Daily Oklahoman* at Oklahoma City, who not only figured out the turkey dinner but also the cost in barrels of crude for presents which the average oil man with production in the West Edmond or Oklahoma City fields might have bought for Christmas. He was inspired by the fact that the crude oil price index today is pegged against all commodities at 105 in the general price bracket.

Therefore, consider an oil producer in the Oklahoma City or West Edmond fields if he tried to trade barrels of crude for merchandise or presents:

For 10 barrels of West Edmond crude he could buy (a) negligee or toilet kit for the wife, or (b) a Stetson hat for himself, or (c) a wagon and chemical set for Junior, or (d) a doll and doll clothes for the Little Miss, or (e) a reading glass for Aunt Minnie.

For 10 barrels of Oklahoma City crude he could buy: (a) a bottle of perfume for his wife, or (b) a pair of shoes for himself, (c) a detective outfit for Junior, or (d) a doll buggy and two picture books for the Little Miss, or (e) a purchase certificate for $7.50 for Auntie.

For two barrels of crude he could get (a) a carton of cigarets, or (b) a package of cocktail napkins, or (c) a softball and bat, or (d) a "play nurse" kit.

For one barrel of West Edmond crude he could buy (a) a pound of tobacco, or (b) a handkerchief, or (c) a plastic airplane, or (d) a drawing book and crayon, or (e) five bottles of beer to invoke the Christmas spirit.

Since OPAers are human and must pay their Christmas bills like the rest of us, it is to be hoped Barrow's homey analysis, which might well be applied to all sections of the nation, will receive their sympathetic consideration and bring about in early 1946 the long-hoped-for increase in the price of crude.

Oil For Tomorrow

WHERE is the oil for tomorrow . . . oil to power our cars and trucks and planes, to heat our homes and buildings, to supply raw materials for the miracle products of the Chemical Age?

The answer is—Oil is here, in America, waiting to be found. Keep enterprise free, to reward risk and effort, and America will have plenty of oil.

To help you find and produce the oil for tomorrow there will be plenty of Youngstown tubular goods—pipe you can always depend on for uniformity and top quality . . . because it is built by skilled, veteran craftsmen who have met your most exacting needs for 43 years.

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Photo by Rosskam-Courtesy, Standard Oil Company (New Jersey)

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The Week's News

As A final step in the liquidation of the wartime oil structure, Secretary Ickes last week revoked orders setting up the Petroleum Industry War Council and the Foreign Operations Committee, which officially will pass into history December 31. Page 13.

Oil Prospect for Big Inch—Government operation of the Big Inch system as common carrier oil pipe lines rather than natural-gas facilities is expected to be recommended to Congress by the Surplus Property Administration if a purchaser or lessee for the lines cannot be found. Page 13.

FPC Crackdown—The Federal Power Commission will crack down on natural gas companies using the plea of "emergency" to start construction of new facilities before obtaining necessary authorization. The war is over and peacetime ground rules are again in effect, FPC states. Page 14.

Another Research Proposal—A third version of the national science foundation bill has been introduced in Congress, supposedly meeting the objections of industry that it would be deprived of the benefits of any inventions developed under the original proposals. Page 14.

Natural Rubber Cargo—The first shipment of rubber to reach the United States in nearly four years arrived last week, but indications are not more than 350,000 tons will come in next year and there will be a market for all the synthetic rubber the petroleum-base plants will produce. Page 16.

Anti-Trust Instrument—Documents seized from German government and industry files which relate to cartel or other arrangements with American firms would be made admissible in Department of Justice civil anti-trust cases, under legislation introduced in Congress. Page 15.

Ickes Gives Forth—Secretary Ickes criticized efforts to push congressional legislation ahead of the Supreme Court's tidelands decision. Page 13.

Wants PAW Records—Secretary Ickes wants greatly expanded functions by the Petroleum Conservation Division of the Department of Interior, asks that PAW records be turned over to that unit. Page 12.

New Officers—J. L. Latimer heads the Magnolia companies (Page 15) and Howard G. Vesper is named president of California Research Corporation. Page 13.

API Washington Offices—Old PIWC quarters in the national capital have been taken over by API for its transportational divisional headquarters. Page 14.

Good Prospects Foreseen for 1946 With John Consumer in Driver's Seat

Slow but steady improvement in world supplies of materials, gradually overtaking market demands starved for four years; labor difficulties eventually straightening themselves out as wages are increased; higher costs of production which will be only partly compensated for in many instances by price increases restrained by competitive conditions even after OPA controls are lifted, and little chance of further tax relief for another twelve months—these conditions face trade and industry as they go into 1946.

Complicating the whole situation will be the political tug-of-war which habitually engrosses Congress in an election year but which, in 1946, will be all to the good from the standpoint of industry as Congress rejects or waters down administration proposals for new industrial legislation. Only in the field of taxes is any business legislation assured, and there only with respect to excise levies and a possible reduction in individual income rates.

Revival of Competition

Higher wages, starting in at the raw material level, will tend to increase production costs of all commodities, but the revived competition of concerns concentrating until recently upon war production and the added competition of new companies and new materials will make difficult, if not impossible, the full recouping of higher costs through higher prices alone in many lines, and part will have to be recovered through increased efficiency and a reduction in overhead.

The early months of the year are expected to be marked by strikes in practically every major industry, as labor in other lines seeks to catch up with the oil refining, automobile and steel industries, where demands for greater take-home money have established union objectives generally. As time goes on, the wage situation in the various industries will straighten itself out and the wave of strikes will recede, partly as a result of improved pay rates and partly from the leavening effect of the large number of servicemen returning to civilian work.

For most industries, foreign trade will offer no great immediate opportunities except for Latin America, where demand for United States goods will remain high, foreign markets will continue under strict government controls, with imports confined to essential products which cannot be supplied domesticaly.

Consumer Is King

The biggest factor in the 1946 industrial picture, however, will be the ultimate consumer. How much and what the public buys will set the pace for industrial and trade activities all along the line. Currently, it is a seller's market, but the public already is showing an inclination to resist inferior goods, even though it is the first available, and to wait until the known products of reputable manufacturers reaches them.

All in all, the prospects for 1946 are good, with unemployment now expected to reach not more than half the figure originally estimated, store shelves still half empty, and demand at high level. But it will take the best efforts of industry and maximum cooperation of government to develop the opportunities to the maximum.

Principally-Affected Firms In Colombia Settle Strike

All the principally-affected oil companies in Colombia have settled their differences with the Federation of Unions of oil field workers and have signed two-year contracts, late reports indicate. These include Colombian Petroleum Company, operators of the Barco concession and the Sagoc pipe line and termina, Tropical Oil Company (see page 46) and the Shell group. Wage increases were not exorbitant. Some of the other provisions regarding employe welfare had voluntarily been put into effect by the companies.

Although new contracts were all consummated within a few days of each other, the negotiations were carried on separatively with the individual companies and unions and consequently may vary somewhat. Full details are lacking.

Asphalt Crude on Move From Wood County Field

Standard Oil Company of New Jersey, Louisiana Division, has contracted to deliver an aggregate of 3 million barrels of asphalt crude produced in the Hawkins field, Wood County sector of East Texas, during 1946.

Pan American Refining Company has contracted to purchase 5500 barrels daily for use in its plant at Destrehan, La., while Shell Oil Company booked 1 million barrels to be delivered at rate of 80,000 to 85,000 barrels monthly.

This oil is produced and purchased by Humble Oil & Refining Company and moved by the Humble Pipe Line Company and Interstate Oil Pipe Line Co.

Ickes Wants PAW Records to Go to Expanded Petroleum Conservation Unit

Expansion of the Petroleum Conservation Division to make it a more potent force in the postwar oil world may be provided for by President Truman in the course of reorganization of the federal establishment, authorized by legislation recently enacted by Congress, it was disclosed December 27 by Secretary Ickes.

Ickes revealed that he has given the expansion of the division considerable thought and believes it should take over all the records of PAW and "should be a more active function than we have had heretofore."

In a general discussion of the oil situation Ickes warned that the shortage of fuel oil and coal might continue for some time. Lack of the former, he said, can be attributed to the natural inclination of refiners to produce gasoline, the most profitable product.

The secretary, however, saw little merit in the request made by B. L. Majewski of President Truman for appointment of a commission to study fuel oil diversion in the Middle West, suggesting that by the time "a commission is appointed, holds sessions and solemnly resolves," the crisis may have been passed.

Commenting on statements by Russell B. Brown, general counsel of the Independent Petroleum Association of America, that independent interests were not properly represented on the PIWC, Ickes declared that independent representation was numerically greater than that of the major companies, but "every independent couldn't be put on."

"We did try to make it representative of the different groups in the independents and they got along very well and did an unusually good job," he said. "And I don't see why anybody wants to complain about it now."

Patent Roundup

A Regular Feature of THE OIL WEEKLY

Patents recently issued by the United States Patent Office at Richmond, Va., include those listed below.

Printed copies of the patents listed are furnished by the patent office for 10 cents per copy and can be had by addressing the Commissioner of Patents, Washington 25, D. C.

Blowout Seal

A blowout seal for a well drilling rotary has been patented by August R. Maier of Oil City, Penna., and assigned to Oil Well Supply Company of New Jersey. (No. 2,390,601.)

The seal is in reality a flexible ring secured to the lower part of a rotatable table. The ring extends beneath and beyond the joint between the table and its stationary base. In a normal position, the ring does not touch the base but when it is actuated by a blow, it is forced against the base into a sealing position.

Detonating Method

A method of detonating explosives in deep wells has been patented by Ford I. Alexander of Whittier, Calif. The patent is unassigned. (No. 2,390,676.)

A detonation instrument, controlled by an electrical detonating circuit, is lowered into the well by a supporting line, high enough above the charge so that it is undamaged in the explosion. An electrical conductor forms part of the detonating circuit and extends between the control instrument and the explosive. A drag loosely mounted on the supporting line is designed to break the conductor when necessary.

Rotary Tool Buster

An unassigned patent for a rotary tool buster has been issued to Arthur E. Johnson of Taft, Calif. (No. 2,390,713.)

This is a cylinder tool string assembly for jarring objects in a hole. At one end there is connected a string section which has an internal, rigid "fast pitch" screw thread and a hammer part. A shaft, telescopically fitted into the cylinder, has a rigid thread which constantly meshes with the cylinder thread. At the same time, the hammer part is under tension of the thread connecting the cylinder and the shaft.

The meshing threads set up a mutual frictional resistance against the axial shift of the cylinder on the shaft. A trip, which can be released by a string tension in the assembly, locks the cylinder with the hammer.

The threads operate in such a way that a "substantial" degree of the initial tension in the assembly is maintained, thus effecting the "impinging" stroke of the cylinder with the hammer.

Well Exploration

An improved method of exploring a well by geophysics has been patented by Robert Earl Fearon of Tulsa and is assigned to Well Surveys, Inc., also of Tulsa. (No. 2,390,931.)

A compound of sodium possessing artificial radioactivity produced by activation with alpha rays is dissolved in the drilling mud. Quantities of the dissolved material are retained by the subsurface strata of the well.

The surplus liquid is drained off and the well is logged to obtain measurements of the subterranean radioactivity correlated with measurements of depth.

Well Logging Method

A method of logging a well by radioactivity has been developed by Lynn G. Howell of Houston and assigned to Standard Oil Development Company. (No. 2,381,093.)

The amount of radiation is measured when a compressed "gaseous medium" is subjected to electrical waves of sufficient strength to set up a continuous current equal in intensity to the radiation. Measurement of the current indicate the amount of radiation.

"Fact Finders" in Wage Dispute

(Acme Photo)

The refinery-strike board, headed by Frank P. Graham, is in holiday recess but will resume its "fact finding" on January 7. They are shown above, left to right, as follows: Paul Eliel of Stanford (California) University; Bernard Cushman, counsel for the panel; Otto Beyer, labor consultant to the Maritime Commission, and Dr. Graham who is president of the University of North Carolina.

PIWC and Foreign Operations Group Finally Liquidated by Ickes' Order

Liquidation of the Petroleum Industry War Council and the Foreign Operations Committee which operated under PAW during the war was announced by Secretary Ickes December 26, effective at the close of the year. The liquidation was accomplished by revocation of those provisions not previously eliminated from Recommendation 24, which outlined the duties, functions and procedures of the council, and Directive 70, under which supply and transportation of the combined petroleum resources of the United Nations in the foreign field were administered and authorization was given for establishment of the Foreign Operations Committee as an advisory body.

In a letter notifying William R. Boyd, Jr., chairman of the PIWC, of his action, Ickes expressed apreciation of the council's services and cited its activities as a "unique example" of the cooperation by industry with government.

At the same time Deputy Administrator Davies advised Orville Harden, chairman of the Foreign Operations Committee, of the dissolution of his group.

"With the attainment of victory," Davies said, "the task jointly undertaken by industry and government more than four years ago has been completed and the wartime responsibilities successfully discharged with credit and honor.

"I wish to express to you personally, as chairman of the Foreign Operations Committee, and to all the members of the committee and its committees and subcommittees, my sincere thanks for the part each played in the fulfillment of the war program."

Davies announced that the petroleum industry advisory committees in five districts throughout the country will be retained throughout the critical winter months ahead, to assure ready availability of information regarding supply, distribution and other phases of the petroleum situation during reconversion.

Federal Gasoline Tax Shows Big Gain for Year

Federal gasoline-tax collections for 1945 will run in the neighborhood of $425 million, approximately $100 million above 1944, it was indicated December 28 in figures released by the Internal Revenue Bureau showing that collections for the year through November aggregated $395,646,991 against $288,843,136 last year.

Lubricating-oil revenues will approximate $100 million or about $33 million above 1944, while receipts from pipe-line transportation will run something under $16 million and probably will be about $500,000 under last year. For the first eleven months, lubricating oil returned $92,328,388 against $57,785,167 last year, and pipe lines $14,474,804 against $14,875,686.

November collections from gasoline dropped to $38,887,066 from the record high of $43,813,359 in October but remained $5,772,000 above the $33,114,838 recorded in November, 1944. Lubricating oil receipts were $6,020,001 against $7,001,490 and $6,750,244, respectively, and the return from pipe-line transportation was $1,281,887 against $1,414,796 in October and $1,328,638 in November, 1944.

Thinks Should Await Court Order on Tidelands Matter

Efforts to push enactment of the tidelands bill in advance of action by the Supreme Court on the government suit was censured December 27 by Secretary Ickes as an attempt to deprive the courts of jurisdiction over matters which might propely come before them.

Ickes declared that enactment of the legislation would set a dangerous precedent under which special interests faced with court actions not to their liking could take the matters out of the hands of the judiciary by seeking legislative action.

Congress, he said, has full authority to give the government's lands away if it wishes, but if it enacts the tidelands bill there will be no way of getting the measure into the courts to challenge its constitutionality. The secretary said that only once in the history of the country has such action been taken when a bill to deprive the courts of jurisdiction in the case of a Mississippi editor whose articles displeased the military authorities then occupying the state was sought in 1869.

Ickes challenged statements of California Attorney General Robert Kenny that oil was not the motivating factor in the effort to obtain the tidelands legistion with:

"Of course it is oil. What else could it be?"

Report Issued by Survey On New Mexico Unit Plan

An informal oil-field report on the Grayburg Co-operative and unit area in Eddy County, New Mexico, has been issued by the U. S. Geological Survey for the benefit of its public-land leases and operators.

The 12-page report, copies of which may be obtained without charge from the oil and gas supervisor at Roswell, New Mexico, was prepared in order to assist the Grayburg Unit Association in determining the proper locations of gas-injection wells and the best methods for the future operation of the pressure-maintenances system that is being installed for the purpose of retarding decline of pressure in the reservoir and increasing the ultimate recovery of oil from the Grayburg zone. The report presents factual engineering information of particular interest to the unit operators of the Grayburg area and of general interest to operators of similar units in other areas.

Vesper Is Elected Head Of California Research

Election of Howard G. Vesper as president of California Research Corporation, a subsidiary of Standard Oil Company of California was announced last week by R. G. Follis, president of the latter. Vesper succeeds Ralph A. Halloran, who is retiring after 26 years' service at the head of Standard's research activities. The new president will head California's research postwar program which includes a $2 million expansion of laboratory facilities at Richmond and El Segundo, Calif.

Vesper has worked with Standard since his graduation from California Institute of Technology in 1922, having recently been manager of the gasoline and fuel oil division of the marketing department. During the war, he handled the allocation of all bulk products except aviation gasoline, for essential civilian use and military requirements.

Wants Big Inch as Common (Oil) Carrier

Government operation of the Big Inch pipe lines as common carrier oil transporters loomed last week when officials of the Surplus Property Administration indicated that a recommendation to that effect would be submitted to Congress in the near future.

Under the law, SPA recommendations become effective after 30 days unless disapproved by Congress.

In recognition of its responsibilities, it was said, the SPA will make an effort to sell or lease the lines for private operation, but in the event a purchaser or lessee cannot be found, it is believed they should be put into use under government operation rather than scrap them.

The SPA is not in accord with the conclusions or recommendations of Ford, Bacon and Davis, New York industrial engineers, who made a study of the lines last summer for the Defense Plant Corporation and held that they could be economically employed only as natural gas carriers. Officials took the position that the engineers had not fully explored the possibilities for postwar use of the lines and held, further, that their conversion to natural gas was undesirable because of the impossibility of reconverting them back to oil in the event of a future emergency.

Unauthorized Construction of Gas Facilities Draws Fire from FPC

The Federal Power Commission last week cracked down on natural gas companies which have utilized the excuse of emergency to construct new facilities before going to the commission for authority, and warned that it would move vigorously against companies doing so in the future.

The commission made its position known in a letter to all the natural gas companies subject to its jurisdiction, in which it said that, while it would act promptly to care for any emergency situation which may develop, it would insist from now on that companies obtain the necessary certificate of authorization before beginning any construction work over which it has control.

"During the war, when the availability of materials and equipment was under the control of and subject to directives of special war agencies, the issuance of temporary certificates by this commission was justified from time to time in order to meet situations created by the rapidly increasing demands of war industries," the letter stated. "However, the cessation of hostilities has changed that situation. Materials are now available that could not be obtained during the war.

"It has come to the attention of the commission, most recently in connection with a hearing on the application of Northern Natural Gas Company to construct and operate facilities, that certain natural-gas companies subject to the jurisdiction of the commission have constructed, and in some instances operated, facilities without having received prior authorization required by Section 7 of the Natural Gas Act. The commission, therefore, gives notice to all companies that appropriate action will be taken against any such company conducting or operating facilities in violation of the Natural Gas Act.

"The commission realizes that the problems of the reconversion period came upon the industry suddenly, but believes that the natural-gas companies should now be able to plan their construction programs for the reasonable future so as to avoid the filing of multiple applications involving portions of what are essentially single extension projects. Intermittent applications for piecemeal construction are costly in time and money. Moreover, proper planning and timely application for authority to construct new facilities will reduce so-called emergency applications under Section 7 of the Natural Gas Act, and thus provide for adequate capacity and service. Time will also be conserved if all applications are supported by complete data.

"The commission recognizes the possibility that natural-gas companies may be faced with real emergency situations, and is prepared to act promptly to enable companies to deal with such contingencies when shown to exist and where the public interest demands emergency action."

New Version of National Research Bill Presented

A third version of the Kilgore bill providing for the creation of a National Science Foundation has been written on the basis of testimony taken during a series of hearings by the war mobilization subcommittee of the Senate Military Affairs Committee.

The new legislation conforms more closely to the views of industrial representatives who appeared before the subcommittee, adhering to the basic policy of full publication and dedication to the public of all the findings and results of federally-financed research providing for exceptions necessary to protect the rights of private organizations which participate in programs of federal research and development.

The organizational structure for the foundation also has been revised to permit maximum participation by the nation's scientists in formulating its program, both as full-time government employes and as part-time consultants.

In a report on the bill, the subcommittee emphasized that it contains no provision for the modification of existing patent law or the right of any individual or corporation to patent, hold, transfer, or exploit privately developed inventions.

"The patent provisions of the bill are concerned solely with the equitable disposition of the discoveries and patent rights resulting from federally-financed research," it was explained. * * * "In those cases where private commercial organizations and the federal government jointly contribute to the invention or discovery, the bill allows contracts to be drawn wherein the contractor retains commercial rights to the patents."

Errol J. Gay Wins Second Exceptional Civilian Award

Outstanding services of Errol J. Gay, Ethyl Corporation motor fuel and automotive technician who for the past four years has served as technical consultant to the War Department, were recognized by the Army last week in the award of the exceptional civilian service award, the highest decoration given civilians by the department.

Previously presented, in April, 1944, with the meritorious civilian service award for services performed in 1943 when he made trips to North Africa and the United Kingdom, Gay's second award was bestowed "in recognition of his outstanding contribution to the Army service forces in standardizing petroleum products and containers for overseas operations."

During the war, Gay visited most of the theaters of operation, in addition to North Africa and the United Kingdom which he visited three times. He worked with our troops in the China-Burma-India theater, where he was commended by the theater commander.

Gay's work, the department said, was responsible for the simplification and standardization of supply of petroleum products to the British and American armies and enabled the Army to correct deficiencies in armored equipment in the United Kingdom shortly before the Normandy invasion. He also served as a representative of the Army-Navy petroleum board last May on a mission to readjust the supply of petroleum products flowing to the Pacific.

Socony Officials Retire

The retirement of Charles E. Arnott as vice president and Arthur T. Roberts as treasurer and comptroller, effective December 31, has been announced by Socony-Vacuum Oil Company.

Arnott was president of Socony-Vacuum from 1931 to 1935 and recently has supervised the marketing activities of the company in the Middle West. Roberts became treasurer and a member of the board of directors of the company in 1939.

API Takes Over Old PIWC Quarters

The American Petroleum Institute will take over the quarters in the Commonwealth Building, Washington, formerly occupied by the Petroleum Industry War Council on January 1, as transportation divisional headquarters with James E. Moss, director of the division, as manager.

In addition to offices for Moss, Mrs. Pauline D. Beatty, his assistant and their staff, the Washington branch will provide an office for President William R. Boyd, Jr., another for Joseph L. Dwyer, special representative assigned to Washington, and space for General Baird H. Markham, director of the American Petroleum Industry Committee and John E. Kane, its Washington representative.

A conference room will be provided where committee and small group meetings can be held and where members of the staff can have facilities when in Washington on institute business.

Miss Shirley Gibbs, who has been Boyd's secretary since 1943, is being transferred to the New York office where she will serve in the same capacity.

Latimer Elected Head Of Magnolia Companies

J. L. Latimer has been elected president of the Magnolia Petroleum Company and Magnolia Pipe Line Company succeeding D. A. Little.

Latimer has been with the company 30 years, having joined Magnolia Petroleum Company, pipe line division when 18 years of age. His first work was a helper on a tank car rack at Thrall, Texas. In 1917 he had advanced to engineer at the Addington, Oklahoma, station, and was gauging in the Shamrock, Oklahoma, field when he entered the Navy for World War I.

J. L. Latimer

After the war, Latimer again joined Magnolia as a gauger. He became chief gauger for Oklahoma early in 1923, but returned to Texas within a few months as district foreman at Corsicana-Powell. In 1924, he was pipe line scout and oil solicitor at Wewoka-Cromwell, Oklahoma. In the same year, he was elevated to superintendent of Southwest Texas, advancing to general superintendent for the Texas, Louisiana and Arkansas district in August, 1934, with headquarters in Dallas.

The retirement of original officials of the Magnolia Pipe Line Company in a brief period resulted in his advancement to acting manager in 1937 and a year later as vice president and manager of pipe lines. For the past several years, Latimer has devoted a greater portion of his time to executive duties with the Magnolia Petroleum Company, and since mid-June has served as acting president due to the illness of Little.

Lloyd Hamilton, Head of Bahrein Petroleum, Dead

Lloyd Nelson Hamilton, 54, chairman of the board of the Bahrein Petroleum Company, Ltd., and long associated with Standard Oil Company of California, died in a New York hospital December 23.

A native of San Francisco, Hamilton joined Standard Oil in 1921, and was sent by the company to London in 1933. Two years later he was made a director of California Standard Oil Company, Ltd., and during that period he initiated and completed the negotiations with King Ibn Saud of Saudi Arabia for the drilling and refining concession granted the Arabian American Oil Company.

In 1941, Hamilton became president of Standard Oil Company of British Columbia, Ltd. In 1943 he was made chairman of the board of Bahrein Petroleum Company, Ltd., and a director of California Texas Oil Company, Ltd.

Hamilton is survived by his wife.

Little Chance for More Cuts in Business Taxes

Reductions in the oil and other excise levies will comprise the body of the 1946 tax-revision legislation, it has been predicted by Representative Robert L. Doughton of North Carolina, chairman of the House Ways and Means Committee.

Doughton said his committee would begin work on the new bill in March or April, and that it may be confined to excise rate cuts to go into effect January 1, 1947. Only in the event business is good next spring and federal revenues run heavier than anticipated will it be possible to consider tax relief in other fields, he added. Given favorable conditions, relief for individuals will have first call, but there is little likelihood of any further corporation tax revision.

Such advance information on the 1947 budget which will be submitted to Congress next month indicates that it may propose a considerably lower expenditure than originally foreseen, possibly between $35 and $40 billion, as against recent estimates of $50 billion or more.

For the current fiscal year it is expected the deficit will approach $30 billion, but economy on the part of the government could reduce the 1947 deficit to a few billions and balance the budget in the 1948 fiscal year. What will actually be accomplished, however, will depend upon the size of the appropriations for national defense.

Crude Oil Production in the United States

(Estimates compiled by the OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED December 29	December 22
Alabama	150	150
Arkansas	75,800	75,900
California	834,100	847,000
Colorado	20,500	20,450
Florida	100	100
Illinois	201,050	201,900
Indiana	12,800	12,750
Kansas	241,900	256,450
Kentucky	28,500	28,900
Louisiana	371,630	371,450
North Louisiana	76,200	76,150
South Louisiana	295,400	295,300
Michigan	48,750	48,900
Mississippi	53,950	54,500
Missouri	100	100
Montana	20,100	20,300
Nebraska	750	750
New Mexico	98,800	98,750
New York	13,200	13,150
Ohio	6,800	6,800
Oklahoma	390,850	385,350
Pennsylvania	32,500	32,750
Tennessee	35	35
Texas	1,922,800	1,922,400
Upper Gulf Coast	469,200	469,000
East Texas Field	307,100	307,100
Rest of Eastern Texas	135,350	135,300
Southwest Texas	314,600	314,500
West Texas	465,850	465,800
North Texas	149,700	149,700
Panhandle	81,000	81,000
West Virginia	8,200	8,100
Wyoming	93,600	93,550
Total United States	4,476,935	4,500,485

Avoid Disappointment

Following the most abnormal era in petroleum history, 1946 is certain to be an abnormal year for pencil sharpening, especially among the industry's planners, statisticians and research people. Because of this the 1946 Yearbook-Forecast Number of The OIL WEEKLY will be more indispensable than ever in plotting future action and assaying contemporary accomplishment.

The publisher has a problem, however. While legal restrictions respecting the use of printing papers have been lifted it is next to impossible to locate adequate supplies. Consequently we must know right away what the demand is going to be for extra copies of the Yearbook-Forecast Number, which sell for $1 a copy.

If we can determine our print order by February 1 we will have time to shop around for sufficient stock to meet your requirements. After the issue is off the press it will be too late and somebody is going to be disappointed.

Determine your wants now and let us know immediately the number of extra copies to reserve for you.

Would Admit Seized Papers As Anti-Trust Evidence

Legislation which would enable the Department of Justice to use official or industrial records seized by occupation officials in Germany in the prosecution of any civil action involving international cartel arrangements has been introduced in Congress by Representative Hatton Sumners of Texas, chairman of the House Judiciary Committee.

The measure would make such records and documents admissible in evidence in such suits merely upon authentication by a certificate of a duly designated officer of the Allied military or civil authorities of occupation stating that they came from the files of a foreign industrial, business or commercial enterprise or from the official files of a foreign government.

Cedar Lake Repressuring Calls for New Pipe Line

Stanolind Oil and Gas Company has authorized the construction of a 19-mile 6-inch natural gas line to extend from the Cedar Lake field, Gaines County sector of West Texas, to the Honolulu Oil Corporation's Homan wildcat gasser situated 7 miles northeast of Seminole. The gas will be utilized in repressuring its Cedar Lake field properties through a 5-mile 2-inch distribution system to be installed.

An experimental test in repressuring with field gas has been made by Stanolind on its Rayner discovery lease, but only 125,000 feet daily was available. Reservoir pressure in the Cedar Lake has dropped about 800 pounds per million barrels of oil withdrawal.

Disney Believes Tidelands Title Will Go to States

Wesley E. Disney, former Oklahoma congressman, Washington representative of Western Oil and Gas Association, at the annual business conference of the association in Los Angeles on December 19, predicted that Congress will pass legislation quitclaiming federal ownership of the tidelands. Disney in general described legislative trends and the necessary for vigilence by the industry.

Don Gilman, executive vice president, explained that a new program of public relations has been delayed until completion of a survey by his group and the API to determine public relations problems.

Richard B. McEntire, chairman of the Corporation Commission of Kansas and Interstate Oil Compact Commission member, said if California would join the Compact the oil industry would be represented practically 100 percent. He called the Compact a "powerful bulwark against federal encroachment."

R. E. Donovan, chief safety engineer for Standard Oil Company of California, warned that a complete revision of drilling and production safety orders soon will be proposed in California and that there will be some radical changes contained in the proposals.

President Ralph B. Lloyd was re-elected for his fifth consecutive term. Others elected were: Vice presidents William Reinhardt, Union Pacific Railroad, and H. D. Collier, Standard of California; treasurer, John B. Sutherland, Ohio Oil Company; executive vice president, Don E. Gilman; secretary, David S. Kilgour; technical secretary, George F. Prussing; and economist, John M. Peirce.

First Postwar Cargo of Natural Rubber Received

The first natural rubber from the Far East to reach this country since February, 1942, arrived in New York last week, but the 78,260 tons delivered aroused no hopes that this country would get back onto a natural rubber basis during the coming year.

The receipt, however, did lead the Reconstruction Finance Corporation to dispose of its remaining stockpiles of scrap rubber, held in 18 cities, which, the corporation said, have been worked over and over so many times that the material remaining has no commercial value.

To the beginning of 1945, the Office of Rubber Reserve and its predecessor, Rubber Reserve Company, had purchased 1,109,000 short tons of scrap rubber, most of it collected through the oil industry, and had sold 927,000 tons.

There will be no lack of rubber in this country next year, although it is estimated that only between 250,000 and 350,000 tons of the anticipated demand for approximately 900,000 tons will be filled by natural crude. The remaining supply will come from the petroleum-base synthetic plants now operating, which have a proven capacity of between 500,000 and 600,000 tons of GRS, 70,000 tons of GRI, butyl, and 30,000 tons of GRM, neoprene.

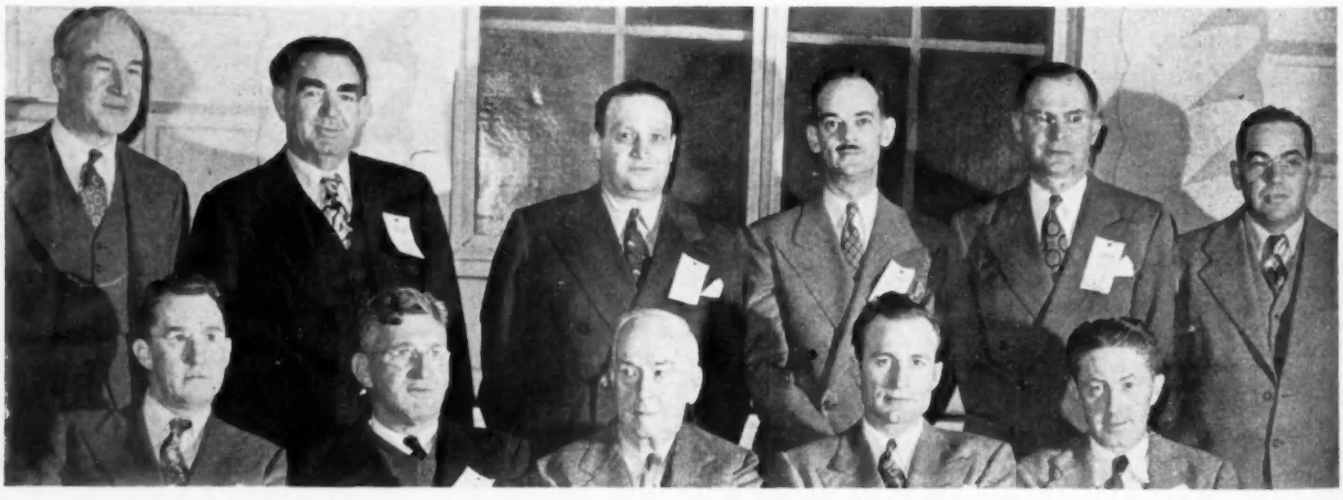
West Texas Crude Bought By British-American Firm

British-American Oil Producing Company is purchasing 1350 barrels of 35-gravity oil daily in the Post field, Garza County sector of West Texas, for tank car shipment to an affiliated refinery at Moose Jaw, Saskatchewan, Canada. The oil is supplied by Scurlock Oil Company, which services the field with a gathering line and extension to an 8-car capacity rack at Post. The field has been unable to maintain its allowable for some months due to insufficient market outlet.

THE OIL MAN'S CALENDAR

JAN. 15–16	IPAA Executive Committee, Quarterly Meeting, Shreveport, Louisiana.
28	FPC Gas Hearing, Houston, Court Room 2, Post Office Building.
28	Independent Natural Gas Association, Annual Meeting, Houston.
FEB. 11	FPC Gas Hearing, Biloxi, Mississippi, Buena Vista Hotel.
19	FPC Gas Hearing, Chicago.
25–28	AIME Annual Meeting, Chicago. Palmer House.
MAR. 19	FPC Gas Hearing, Charleston, West Virginia.
21–22	Southern Gas Association, Galveston.
APRIL 1– 2	Society of Exploration Geophysicists, Annual Meeting, Chicago. Stevens Hotel.
2– 4	American Association Petroleum Geologists, Annual Meeting, Chicago. Stevens Hotel.
17–19	Natural Gasoline Association of America, Annual Convention, Dallas, Baker Hotel.
MAY 7– 9	National Association Corrosion Engineers, Kansas City, Missouri, President Hotel.
16–18	National Oil Scouts and Landmen's Association, Annual Convention, Jackson, Mississippi, Hotel Heidelberg.

Rocky Mountain Group Officers for 1946



Officers and committee chairmen named at the annual meeting of the Rocky Mountain Oil and Gas Association in Casper, Wyoming. Shown above, are, front row, left to right: Glenn Nielson, Cody, public lands chairman; J. F. Cullen, Casper, taxation chairman; E. J. Sullivan, Casper, vice chairman of the legal and legislative committee representing Wyoming; H. O. "Tex" English, executive secretary, and James Donoghue, Denver, first vice president. Back row, left to right: H. H. Healy, Casper, chairman of the legal and legislative committee; Paul Stock, Cody, president; Fred Goodstein, Casper, second vice president; H. P. Macauley, Denver, public relations chairman; J. M. McIntire, Casper, natural gas committee chairman, and Carroll Kirk, Frannie, Wyoming, chairman of the production committee.

More Manpower, Materials Spur Wildcat Completions

THERE was a perceptible increase in completions of exploratory wells during November, as the industry apparently took advantage of improving manpower and materials in the effort to carry out as much of its originally scheduled intensive wildcatting program for 1945 as possible. The industry has aimed at the completion of 5000 wildcats in 1945, but was finding it extremely difficult to drill all scheduled wells until the end of the war. Since then, some of the handicaps have been somewhat modified, and the improvement was reflected in actual completions during November.

It is indicated that activity is continuing on a comparatively vigorous basis in December, and that wildcatting will extend undiminished or increase in 1946, various large operators having revealed that they propose to intensify exploratory work of all kinds,

The improving conditions will facilitate the carrying out of these plans, which are based primarily on the generally recognized need for increasing proved reserves. The heavy demand for petroleum during the war forced premature production in many fields, and numerous companies are not in as strong a position with regard to reserves as they believe they should be.

While the end of the war has brought a reduction in the demand for petroleum products, it is realized that this is only a temporary condition, and that the demand eventually will turn upward and

■ CONTINUED ON PAGE 21

Also see tables on 18-19-20-21

Summary of Results of Exploratory Drilling

ITEM	Nov., 1945	Oct., 1945	11 Months JAN.-NOV. 1945	1944	Percent Diff.
Oil Discoveries	**49**	**31**	**437**	**412**	**+ 6.1**
New Fields	28	21	304	283	+ 7.4
New Pays	21	10	133	129	+ 3.1
Distillate Discoveries	**6**	**2**	**40**	**38**	**+ 5.3**
New Fields	3	1	29	29	.....
New Pays	3	1	11	9	+ 22.2
Gas Discoveries	**15**	**14**	**113**	**108**	**+ 4.6**
New Fields	14	14	100	94	+ 6.4
New Pays	1	.....	13	14	— 7.1
Total Discoveries	**70**	**47**	**590**	**558**	**+ 5.7**
Extensions to Fields	**13**	**9**	**152**	**160**	**— 5.0**
Oil Fields	10	8	120	124	— 3.2
Distillate Fields	.....	1	8	9	— 11.1
Gas Fields	3	.....	24	27	— 11.1
Total Prod. Tests	**83**	**56**	**742**	**718**	**+ 3.3**
Dry Holes	**280**	**352**	**3,276**	**3,247**	**+ 0.9**
(Weekly Average)	70.0	70.4	68.3	66.3	+ 3.0
Wildcats	277	344	3,203	3,157	+ 1.5
New Pays	.....	7	38	18	+111.1
Outposts	3	1	15	72	— 79.2
Total Expl'tory Tests	**363**	**408**	**4,018**	**3,965**	**+ 1.3**
(Weekly Average)	90.8	81.6	83.6	80.8	+ 3.5
Percent Productive (Weekly Average)	22.9	13.7	18.5	18.1	.....
Percent Dry (Weekly Average)	77.1	86.3	81.5	81.9	.....

Dry hole completions are from weekly reports and totals represent completions for 4 weeks in November, 1945; 5 weeks in October, 1945; 48 weeks in Jan.-Nov., 1945; 49 weeks in Jan.-Nov., 1944.

Results of Exploratory Drilling in November and First 11 Months, 1945-1944, by Districts

State or District	NOVEMBER, 1945													FIRST 11 MONTHS, 1945																	
	Productive Tests									Unproductive Tests			Total Exploratory Tests	Productive Tests									Unproductive Tests			Total Dry		Total Exploratory Tests	
	New Fields			New Pays			Extensions			Total Productive	Wildcats	New Pays	Outposts		New Fields			New Pays			Extensions			Total Productive 11 Mo. 1945	Total Productive 11 Mo. 1944	Wildcats	New Pays	Outposts	11 Mo. 1945	11 Mo. 1944	11 Mo. 1945	11 Mo. 1944
	Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.					Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.									
Alabama	1									1	2			3	1	1								2	3	20			20	21	22	24
Arizona																														6		6
Arkansas				1						1	3			4	1					1				2	8	35	1	1	37	62	39	70
California				1			1	1		3	18			21	5			4			4	2		15	32	261		2	263	242	278	274
Colorado																					1			1	6	8			8	6	9	12
Florida											1			1												12			12	3	12	3
Georgia																										6			6	8	6	8
Illinois	4		1	1			6			12	41			53	26		1	26			40	5		98	81	362			362	336	460	417
Indiana	2									2	3			5	5	1		2			2			10	10	85			85	63	95	73
Iowa																										1			1	2	1	2
Kansas	3	3		2			1			9	29			38	48	14		10			15	4		91	65	302			302	406	393	471
Kentucky											4			4	8	1		1			2			12	27	84			84	110	96	137
Louisiana	1		1	2		1				5	12			17	20	6	2	16		5	4	1	3	57	40	122		3	125	120	182	160
North Louisiana				1						1	10			11	6	6	1	2			2	1	1	19	12	75		2	77	77	96	89
South Louisiana	1		1	1		1				4	2			6	14		1	14		5	2		2	38	28	47		1	48	43	86	71
Michigan	1	3		1						5	23		2	30	15	6		4	2		1			28	18	219	3	8	230	198	258	216
Mississippi	1						1			2	11			13	2	1	2				6			11	4	116			116	82	127	86
Missouri																						1		1		20			20	7	21	7
Montana															2						2			4	6	16			16	33	20	39
Nebraska																										3			3	8	3	8
New Mexico				2	1					3	5			8	2	1		5	2		1			11	10	61	2	1	64	51	75	61
North Carolina																										1			1		1	
Ohio		1						2		3	5			8		15		1	1		1	9		27	42	59			59	69	86	111
Oklahoma	5	4								9	22			31	58	19	3	10	4		14	1		109	71	281			281	225	390	296
South Dakota																										1			1		1	
Tennessee											1			1												3			3	4	3	4
Texas	10	3	1	11		2	1			28	97		1	126	108	35	21	53	4	6	25	1	5	258	271	1104	32	17	1153	1162	1411	1433
E. Tex. Border											2			2	1	4	3							8	5	19			19	13	27	18
Rest of E. Texas				1						1	6			7	2	3		2	1	3				11	15	62	4	2	68	106	79	121
North Texas	2			3						5	25		1	31	28	1		15	1		5			50	61	274	6	2	282	273	332	334
West Cent. Texas				1						1	12			13	13	4		5						22	20	115	4		119	114	141	134
West Texas	4			1			1			6	13			19	23			10			14			47	41	182	13	8	203	167	250	208
Panhandle																										8	1		9	7	9	7
Upper Gulf Coast	3		1	4						8	9			17	15	5	10	17		1	6		3	57	32	125	4	3	132	127	189	159
Lower Gulf Coast	1	1		1		2				5	18			23	18	12	7	2	2	2		1	2	44	66	163			163	166	207	232
Southwest		1								1	7			8	6	4	1	2						13	27	107		1	108	135	121	162
South Central		1								1	5			6	2	2								4	4	49		1	50	54	54	58
Utah																														1		1
Washington																										1			1		1	
West Virginia																														2		6
Wyoming															3						2			5	20	20		3	23	20	28	40
Total U.S.	28	14	3	21	1	3	10	3		83	277		3	363	304	100	29	133	13	11	120	24	8	742	718	3203	38	35	3276	3247	4018	3965

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in November, 1945

Also Important Extensions to Established Fields

COUNTY	FIELD	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horison (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure: [4]Method of Discovery	Tentative Evaluation of Discovery or Extension (Opinion of Relative Importance of Area from General Viewpoint of the Industry Based on Pertinent but Necessarily Incomplete Data. Later Development or More Complete Data Obviously Might Require Revision of this Tentative Opinion).
		ALABAMA—New Oil Field									
Choctaw	E. Gilbertown	Carter Oil Co.'s Sam Alman 1, swc ne sw 5-10n-3w, 2½ mi e of Gilbertown fld.	7-13-45	9- 5-45	3461	3337-3461	Eutaw sd; U. Cre	P 20, 17 wtr	17.5	SD; seis	Fairly important disc; first considered exten of Gilbertown fld, now understood to be considered as separate fld to be known as E. Gilbertown or Toxie; not yet formally named.
		ARKANSAS—New Oil Pay									
Union	Strong	Brown & Wheeler's C. Clark 1, c sw sw 22-18s-12w	7-22-45	10-29-45	6350	4817-4822	Cotton Valley sd; Jur	P 60	....	.....	Smackover porosity tested sw and sso. This is 2nd well in fld.
		CALIFORNIA—New Oil Pay									
Kern	Cymric	Independent Exploration Co.'s Oceanic 1, 22-29s-21e	.....	10-25-45	4700	4649-4699	Belridge sd; L. Mio	F 960, 5% wtr; ⅜"	37.5	Ant; geol	Now considered new pool in Cymric fld rather than extension of zone (Anderson) disc by Union Oil Co to se. This well is lower than Union's well.
		CALIFORNIA—Oil Field Extension									
Fresno	Lanare	General Petroleum Corp.'s Witten 75-23, 23-17s-18e	7- 9-45	8-11-45	8248	6830-6872	Temblor sd; Mio	F 211; 0.8% wtr	34.4	Ant; seis	.....
		CALIFORNIA—Gas Field Extension									
Tulare	Trico	Trico Oil & Gas Co.'s Atwell Island Community 1, 7-24s-23e	.....	.....	4206	3175-3180 3233-3238	.....	F 18 mln	....	.....	Extends fld 2 mi nw.
		ILLINOIS—New Oil Fields									
Clinton	W. Bartelso	Mosebach's J. Meyers 1, sw nw sw 18-1n-3w	9-19-45	10-30-45	975	926	Cypress sd; Miss	P 6; 2 wtr	....	.....	Comp 10-30-45; not named until 11-2-45. Abt 2 mi sw Bartelso and nw S. Bartelso.
Jasper	N. Newton	Shulman Bros.' Ben Bunton 1, w nw ne 31-7n-10e	10-19-45	11-27-45	2863	2856-2861	McClosky li; Miss	P 37; 30 wtr	....	.....	1½ mi nw N. Boos pool and 3 mi w Willow Hill pool.
Wayne	N. Goldengate	Bell-Duncan's T. A. Leach 1, n nw se 9-2s-9e	10- 6-45	11- 6-45	3407	3302-3311 3326-3353	Lower O'Hara li; Miss Rosiclare li; Miss	P 122	....	.....	Abt 3 mi n Goldengate pool. 2nd well has been comp.
White	Sumpter	Lario Oil's E. Organ 1, nw nw ne 35-4s-9e	9-14-45	11-13-45	3379	2567-2611	Tar Springs sd; Miss	P 33; 38 wtr	....	.....	Abt 2 mi ne of N. Carmi pool.
		ILLINOIS—New Distillate Field									
Jefferson	W. Markham City	Gulf's F. W. Purcell 1, nw se se 4-3s-4e	10- 5-45	11-13-45	3165	2913-2955	Aux Vases sd; Miss	P 27; 120 wtr	....	.....	2½ mi w of Markham City pool.
		ILLINOIS—New Oil Pay									
Clay	W. Ingraham	Kingwood's Fulk 2 nw sw sw 13-5n-7e	11- 4-45	11-27-45	2881	2832-2880	McClosky li; Miss	F 1023	....	.....	2nd well comp in pool; deeper pay than disc. Is being offset.
		ILLINOIS—Oil Field Extensions									
Coles	Mattoon	H. F. Gordon's D. M. Sawyer 1, ne nw se 34-12n-7e	10-11-45	11-13-45	2056	1795-1813 1957-1966	Cypress sd; Miss Rosiclare sd; Miss	P 197	....	.....	½ mi n extension to group well in sw part of pool. Abt ¾ mi w of disc well drilled in 1939.
Coles	Mattoon	Richardson's Powell 1, se ne se 10-12n-7e	10- 7-45	11- 6-45	2007	1746-1794	Cypress sd; Miss	P 228	....	.....	1¾ mi n extension. Abt 20 lcns have been made in area opened up by this extension.
Coles	Mattoon	Sheef's Breese 1, ne ne se 15-11n-7e	10- 8-45	11-20-45	2032	1964-	Rosiclare sd; Miss	P 208; 7 wtr	....	.....	2¼ mi s extension to pool.
Effingham	Bible Grove	Ashland Oil's Woody Heirs 1, sw sw ne 31-6n-7e	9-15-45	11- 6-45	2962	2844-2837	McClosky li; Miss	P 201	....	.....	¾ mi w extension to pool.
Madison	Marine	Pommier's Wm. Schrieber 1, se nw sw 4-4n-6w	8-28-45	11- 6-45	1762	1734-1736	Li; Sil	P 135, 15 wtr	....	.....	1 mi nw extension to Marine pool.
Wayne	Clay City Consol.	Slagter's E. Groff 1, sw sw nw 31-2n-9e	10- 9-45	11- 6-45	3090	3064-3071 3079-3082	Rosiclare li; Miss McClosky li; Miss	P 260	....	.....	1 mi n extension to eastermost well in pool.
		INDIANA—New Oil Fields									
Gibson	.....	Deep Vein Coal Co.'s Fee 1, ne ne se 1-2s-12w	.....	11- -45	2138	2124-2138	Benoist sd; Miss	P 115	....	.....	.....
Gibson	W. Johnson	Magnolia's Dike 1, sw sw sw 25-2s-13w	.....	11- -45	2822	2655-2662	Aux Vases sd; Miss	P 280	....	.....	.....
		KANSAS—New Oil Fields									
Cowley	.....	Kanotex Ref. Co.'s Tuttle 1, nw sw ne 7-34s-3e, 1½ mi w Gueda Springs pool	.....	11-26-45	3404	3385-3403	Bartlesville sd; Penn	F 192	38	Ant; seis	Accurate information not available; believed sml structure.
Sedgwick	.....	Beech Aircraft Corp.'s McLean 1, nw se nw 1-27s-1e, ne outskirts of City of Wichita.	.....	11-29-45	2979	2975-2977	Burgess sd; Penn	F 75	....	Ant; seis, sub	Fair strike; est recov bet 4000-5000 bbls per acre.
Sumner	.....	Paul Hatfield's Bellman 1, ne ne sw 15-30n-1e, abt 6 mi e Zyba pool	.....	11-16-45	3916	3795-3802	Simpson sd; Ord	S&F 170	51	Ant; seis	Good strike; dry in Arbuckle, Simpson sd porous, good permeability.
		KANSAS—New Gas Fields									
Barber	Pearl Lake	Driller Gas Co.'s Pearl Lake 1, sw sw 1-31s-14w, 1½ mi sw Marjorie gas pool	.....	11-10-45	4409	4401-4409	Viola li; Ord	F 5 mln	....	Ant; seis, sub	Important disc; may link up Hargis and Marjorie gas areas resulting in a prod gas zone 8 mi long and abt 2 mi wide.
Pawnee	Shady	J. M. Huber Corp.'s Katchelman 1, nw nw sw 34-22s-16w, 6 mi sw Zook pool	.....	11-24-45	4107	4078-4107	Arbuckle li; Camb	F 36½ mln	....	Ant, str trp; dr	Formerly comp as oil disc in Simpson; drilled deeper to Arbuckle. Apparent important new gas reserve opened; extent of prod Arbuckle zone unknown.
Pratt	.....	Bridgeport Oil Co. Inc.'s Brown 1, nwc 25-29s-13w, 12 mi ne of Chitwood pool.	.....	11- 9-45	4789	4467-4477	Viola li; Ord	F 1 mln	....	Str trp; dr	Sml prod area indicated; well showed little oil.
		KANSAS—New Oil Pays									
Pratt	Coats	Lion Oil Co.'s Andrews 3, nw se se 24-29s-14w, in Coats pool.	.....	11-27-45	4400	4378-4390	Arbuckle li; Camb	F 3000	38	Str trp; dr	New horizon for Coats pool; saturated Arbuckle zone checks more than 100 ft higher than nearby wells; due to geological conditions future of deep Arbuckle undetermined.
Rooks	Vohs	British-American Oil Prod. Co.'s Perotte Est. 1, ne se se 11-10s-19w, in Vohs pool.	.....	11-14-45	3595	3339-3343	Lansing li; Penn	P 537	....	Ant; sub, dr	New horizone for Vohs pool originally prod fr Arbuckle only.

Rooks	Vohs	British-American Oil Prod. Co.'s Perotte Est. 1, ne se se 11-10s-19w, in Vohs pool.		11-14-45	3595	3339-3343	Lansing li; Penn	P 537	....	Ant; sub, dr	New horizone for Vohs pool originally prod fr Arbuckle only.

		KANSAS—Oil Field Extension									
Ellsworth	Stoltenburg	Nadel & Gussman's Haska 1, sw sw ne 5-16s-10w, ½ mi nw Stoltenburg prod		11-13-45	3327	3323-3327	Arbuckle li; Camb	P 1139	36	Str trp; dr	Proves approx 400 ad acs in Stoltenburg Arbuckle li porous; est recov 8000 bbls per acre.
		NORTH LOUISIANA—New Oil Pay									
Claiborne	Athens	Skelly's J. G. Dance 1, (OWWO) ne sw 31-20n-6w	3-10-41	11- 7-45	6708	6030-6050	Pettit li; L. Cre	F 146; $\frac{1}{32}$"	32.1		First oil prod in active distillate area.
		SOUTH LOUSIANA—New Oil Field									
Calcasieu	Lake Charles	Union Sulphur Co.'s Bordages 1, 3388.2 n 1800.1 e of swc se¼ 5-10s-9w		11-17-45	8616	8478-8490	Hackberry sd; Olig.	F 60.72; $\frac{11}{64}$"	....	D; seis	Completed in side tracked hole. High gravity oil.
		SOUTH LOUISIANA—New Distillate Field									
Cameron	Mud Lake	Magnolia's Lutcher A-1, 2300 n 2000 e of swc of 32-14s-11w	3-16-45	10-18-45	11923	10652-10660	Hackbery sd; Olig.	F 48; 12 sw. wtr $\frac{5}{32}$"	59.5	D; seis	High water flow indicates discovery in present stage adds very little to reserves. Second test has started.
		SOUTH LOUISIANA—New Oil Pay									
Iberville	Bayou des Glaises	Humble's Wilbert Mineral Corp 6-B, start sec sect 76 go nly on el 1333 th wly at ra 39 to len in 76-8s-8e.	7- 2-45	10-29-45	10895	10431-10444	Frio sd; Olig.	F 268; 0.1% wtr	36.3	D; seis	Second oil sand for field.
		SOUTH LOUISIANA—New Distillate Pay									
E. Baton Rouge	University	William Helis's R. B. Nelson 15, begin nec sect 65 go s 31° 88 mins w for 2266 on sect line th s 58° 52 mins e 460 at ra in 26-7s-1w.	6-18-45	10-21-45	9991	9955-9970	Frio sd; Olig	F 160; $\frac{7}{16}$"	51.5	D; seis	Deepest sand in field.
		MICHIGAN—New Oil Field									
Allegan	Heath	S. L. McCall's Erwin 1, nw nw ne 35-3n-14w, 4 miles south Overisel field.	7- 3-45	8-15-45	1470	1468-1470	Traverse li; Devo	P 40 ; 10 wtr	....		Small pool.
		MICHIGAN—New Gas Field									
Isabella	Gilmore	Sohio Petroleum Co.'s Gas Unit 2, se nw se 26-16n-5w°, four miles west Vernon field.	9-24-45	11- 5-45	1569	1556-1565	Michigan Stray sd and dolo; U. Miss	F 1.71 mln	....	Ant; cd	Promising structure. First deep test to Dundee dry for oil.
Osceola	Orient	Sohio Petroleum Co.'s Gas Unit 1, se nw se 13-17n-4w, 7 miles southeast Evart field.	10-29-45	11-13-45	1517	1472-1500	Michigan Stray sd; U. Miss	F 1.31 mln	....		
Ottawa	Jamestown	Clawson Development Co.'s Van Bronkhorst 1, sw ne sw 29-5n-13w, four miles north Salem Oil field.	9- 6-45	11-27-45	1645	919- 933	Berea sd; U. Miss	F .8 mln	....	Geol	Unimpressive.
		MICHIGAN—New Oil Pay									
Osceola	Ashton (formerly North Lincoln)	Pure Oil Co.'s Carr 1, nw ne se 5-18n-10w	9- 5-45	12- 1-45	3676	3620-3640	Monroe dolo; Devo	P 17	....	Ant; geol	Not impressive, but has possibilities.
		MISSISSIPPI—New Oil Field									
Clarke	Quitman	L. J. Rousell's Long Bell Petroleum Co. 1, se sw 10-2n-16e, 1 mi s and 5 mi e of Quitman.	6-10-45	10-21-45	3808	3714-3717	Eutaw sd; U. Cre	P 37; 5% wtr	13.6	SD; seis	Relatively unimportant. New field loacted about 11 miles se of Langsdale and producing from same strata. Producing sect very thin, and salt wtr prod a problem. Well being reworked to eliminate now.
		MISSISSIPPI—Oil Field Extension									
Lamar	Baxterville	Superior Oil Co.'s R. Batson 4, sec sw nw 20-1n-16w, 1 mi s of production in Baxterville.	9- 1-45	10-23-45	9489	8642-8940	Marine Tuscaloosa sd; U. Cre.	F 398; ½"	14.5	Sd;	No importance beyond extending outpost of field
		NEW MEXICO—New Oil Pay									
Lea	Paddock	Neville G. Penrose, Inc.'s L. B. Jones 1, c sw sw 6-22s-38e, ne/o to 5100 ft. Glorietta pumper.	8- 7-45	11-26-45	7205	7040-7160	Basal Yeso li; Perm	F 187; $\frac{1}{16}$"	39	Ant; geol	Passed up ind. small producer in Glorietta 5285-5377 ft. being low structurally. Logged eff pay at 7020-7192 ft. Ext of prod area is speculative; probably small.
Lea	Penrose-Skelly-Grayburg	Amerada Pet. Corp.'s State 1-PB, c sw sw 16-23s-37e, ne/o to 3600 ft Grayburg lime producer.	8-11-45	11-23-45	5075	5015-5065	Glorietta (Holt) li;	F 178; 88 wtr, ½"	39	Ant; geol	Abundance of formation wtr discounts its importance. Situated 6¾ mi se by w of nearest prod in same zone.
		NEW MEXICO—New Gas Pay									
Lea	Drinkard	Phillips Pet. Co.'s G. W. Sims 1, cnw sw 24-22s-37e, e/o to 6400 ft oil producer	5-15-45	11- 8-45	7377	5459-5484	Upper Yeso (Clear Fork) li; Perm	F 3.844 mln (sweet); 2"	....	Ant; geol	Barren in field's deeper oil pays. Not imp as gas supply.
		OHIO—New Gas Field									
Medina		P. Ringler's H. L. Low 1, sec 8, Homer twp		11- -45	2843	2826-2836	Clinton sd; Sil	F 0.175 mln	....		
		OHIO—Gas Field Extension									
Ashland	Ashland	Ohio Fuel's R. G. Hiett, sec 24, Mifflin twp		11- -45	2652	2644-2652	Clinton sd; Sil	F 1.95 mln	....		Extends fld 1 mi w.
Perry	Hopewell	W. J. Sloan's Jess Underwood 1, sec 32 Hopewell twp		11- -45	2977	2945-2977	Clinton sd; Sil	F 0.64 mln	....		1 mi s extension of old Hopewell gas pool.
		OKLAHOMA—New Oil Field									
Comanche	Lawton NE	J. M. Womack's Fullerton 1, se sw ne 21-2n-10w about 1 mile ne of Lawton pool		11- 6-45	994	970- 994		P 140	....	Ant; sub	Fair discovery; structure may tie in with the Lawton pool.
Kiowa	Carnegie SW	Fox & Fox's Pounds 1-A, nw sw sw 36-7n-14w, 6 miles sw of Carnegie		11-17-45	784	768- 784	Wichita sd; Perm	F 100	....	Ant; seis, sub	Undetermined
Lincoln	Unnamed	Four States Oil Co.'s Watson 1, se se ne 13-15n-4e, about 6 miles nw of Chandler.		11-14-45	3550	3540-3550	Prue sd; Penn	F 50	....	Ant; seis, sub	Sand tight, recov est unavail; poss. sml struct.
Nobble	Red Rock	Deep Rock Oil Corp's Arrendell 1, sw nw sw 12-23n-1e, 2½ mi ne of Red Rock		11-20-45	4600	4590-4597		F 450	41	Ant; seis, sub	Imp. discovery; struct may cover 1800 acs; good recovery expected.
Seminole	Unnamed	Mealy-Wolfe Drilling Co.'s Wallace 1, nw nw ne 7-8n-7e, 2 mi n of Wewoka.		11-13-45	3328	3300-3328	Cromwell sd; Penn	F 200	....	Ant; sub	Probably small struct but good recov expected from permeable Cromwell sd.
		OKLAHOMA—New Gas Fields									
Hughes	Unnamed	T. J. Lynch's Poe 1, csw se 32-9n-11e, 5 mi se of Wetumka		11-19-45	1682	1650-1682	Sd; Penn	F 4 mln	....	Ant; dr	Undetermined.
Okfuskee	Unnamed	Hill & Hill's Dunson 1, se ne ne 13-10n-8e, near nw Bearden area		11-29-45	3490	3204-3218	Gilcrease sd; Penn	F 9 mln	....	Ant; sub	Dry in Cromwell; possibly small struct covering abt ½ sect.
Seminole	Unnamed	Gillespie & Son's Patton 1, se nw se 18-6n-8e, about 1 mi s of Sasakwa pool.		11-14-45	2935	2740-2755	Gilcrease sd; Penn	F 6 mln	....	Ant; dr	Small structure indicated.
Texas	Unnamed	Phillips Pet. Co.'s Patkins 1, sw sw ne 32-1n-17ecm, 12 mi se of Guyman		11- 6-45	3110	2710-2970	Kerington-Krider sd; Perm.	F 13 mln	....	Ant; sub	Possible extension to Hugoton pool.
		LOWER TEXAS GULF COAST—New Oil Field									
Calhoun	Sheriff	Quintana Pet Corp.'s W. A. Shofner Est 1, 1875 fr nwl 330 fr swl 730-ac lse, Bonafacio Rodriguez lge. 3400 ne of Boyd 1.	9-22-45	11-14-45	8613	5710-5727	Frio sd; Olig	F 74.25; ½"	37.3	Flt; seis	1st test drld on prospect was failure. May prove to be important strike.
		LOWER TEXAS GULF COAST—New Gas Field									
Victoria	Marcado Creek	Taylor Ref. Co.'s Raymond F. Meyer 1, 660 fr nw & swl 202-ac lse and blk 48, Andrew Peets sur.	10- 6-45	11- -45	5705	4720-4725	Frio sd; Olig	F no gge	....		Unimportant.
		LOWER TEXAS GULF COAST—New Oil Pay									
Bee	Burnell-Wilcox	Blanco-Buchanan's C. A. Henderson et al 1, 330 fr sly nw & swl 126-ac lse, R. C. Ballard sur.		10- 3-45	3518	3515-3517	Pettus sd; Eoc	F 35; ¼"	....	Flt; geol	Field's reg pay is in Wilcox. Adds little to reserves.

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in November, 1945—(Continued)

COUNTY	FIELD	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure: [4]Method of Discovery	Tentative Evaluation of Discovery or Extension (Opinion of Relative Importance of Area from General Viewpoint of the Industry Based on Pertinent but Necessarily Incomplete Data. Later Development or More Complete Data Obviously Might Require Revision of this Tentative Opinion)
		LOWER TEXAS GULF COAST—New Distillate Pay									
Brooks	Dan Sullivan	Sun's D. J. Sullivan 5, 467 fr wl 15,753-ac lse 12,800 fr sl 15,753-ac lse, 1616 nw Well 2, Loma Blanca Gr.	1-15-45	9-10-45	9927	7831-7840	Frio sd; Olig	F 60; tr wtr 3.9 mln 7/64"	60	.....	Gas & dist sd. Discovery well flowed 44-gr oil from deeper pay.
Willacy	La Sal Vieja	Magnolia-J. S. Abercrombie's Harvey Geis 1, 660 fr e & sl 94.8-ac lse, 6304.8 e 660 n of swc Harding-Lendahl sbdn lots 13 & 14 sect 30, Jaun de Carricitos Gr.	6-14-45	10-25-45	10098	8935-8955	Frio sd; Olig	F 86; 18.5 mln 7/32"	54	D; seis	2nd pay for recently revived field.
		UPPER TEXAS GULF COAST—New Oil Field									
Brazoria	Stratton Ridge	E. Cockrell's Seaburn Est. Heirs 3, 1200 fr nl 1200 fr nly/wl 2757.22-ac lse, Jared E. Groce 5 lge Gr., Stratton Ridge Area.	7-20-45	10-30-45	3970	3955-3965	Sd; Mio	F 231.84; 1/4"	25.4	SD; geol	Old abandoned dome revived.
Hardin	Olive	Pan American Prod. Co.'s Olive Sternenberg Lbr. Co. 1, 1882 fr wl 50 fr nl P. S. Watts sur, c 40-ac unit of 4000-ac lse, 18,500 nw Silsbee fld.	5-13-45	11- 6-45	10049	10012-10049	Wilcox sd; Eoc	F 596.15; 7/32"	44.5	D; geol	Open hole completion; immediate dev indicated.
San Jacinto	Unnamed	Butcher-Arthur's N. R. Dodson 1, 750 n of sly/sl W. M. Logan sur, 1000 sw of nel of sur, s of Cold Springs, 1 mi nw Navarro's Foster Lbr. Co. 1, disc. well.	.....	10-12-45	6220	4375-4502	Cockfield sd; Eoc	F 170; 2.371 mln; 3/4" 1/4"	43	.....	1 mi nw of Cold Spring Wilcox sd pool. Dual sands may prove imp. Immediate dev indicated
		UPPER TEXAS GULF COAST—New Distillate Field									
Newton	Sabine Tram	Humble's E. C. Hankamer et al 1, 660 n of sec sect 23 alg wl J. B. Smyth sur 330 e at ra on 340-ac tr out of 42,210-ac lse.	9- 2-45	11- 8-45	9009	7952-7974	Cockfield sd; Eoc	F 80; 11/64"	62	Flt; seis	2nd test for this discovery now drlg. Disc wel points only to gas & distillate.
		UPPER TEXAS GULF COAST—New Oil Pay									
Ft. Bend	Nash Dome	Danciger's Theodor Meier 1, 330 fr el 1900 fr sl 207.34-ac lse, 1700 fr nl 330 fr el H. N. Cleveland sur.	5-19-45	10-25-45	5893	5861-5875	Frio sd; Olig	F 240; 1.3 mln; 7/64"	30	D; geol	Flank production. Old dome revived.
Ft. Bend	Nash Dome, N. flk	Danciger's O&R Co.'s Theodor Meier 1, 330 fr el 1000 fr sl 207.34-ac lse, H. N. Cleveland sur.	5-19-45	10-24-45	5893	5861-5893	U. Frio sd; Olig	F 2691 3/8" wtr; 7/32"	30.2	D; geol	Completed in side tracked hole. 2nd test drilling.
Liberty	S. Liberty	F. J. Bashara's Pickett 1, (OWDD) 50 fr n&wl lse, M. G. White sur.	.....	9-26-45	3862	3600-3618	Frio sd; Olig	F 87; 1/2"	41	SD; sur	Flank production. May not extend over wide area.
Wharton	Lane City	H. W. Snowden's H. C. Cockburn 2, 200 fr nwl 316.7 fr swl sect 12, S. Castleman sur, blk 105, 537-ac lse, ne of Well 1.	.....	10-26-45	5452	5430-5450	Frio sd; Olig	F 85.25; 7/16"	24.9	Flt; seis	Deeper pay sd. May not extend over all of field.
		EAST TEXAS—New Oil Pay									
Wood	Quitman	Shell Oil Co.'s C. C. Harris-Atlatl 1, 760 ft nsl and 2115 ft ewl of E. Goodsir sur, offsetting 6200 ft Paluxy production.	9-14-45	11-15-45	6700	4126-4140	Sub-Clarksville sd; U. Cre	P 62	23	Flt. Ant; geol	Indicated commercial prod from Sub-Clarksville sd prev passed up by Paluxy wells; possibly justifying twin drlg. Separate outlet & market required by Sub-Clarksville sd.
		NORTH TEXAS—New Oil Field									
Young	.....	Fleming Oil Co.-Hanlon & Buchanan, Inc.'s Graham-Tankersley 1, 330 ft out nec of sw1/4 section 741, TE&L Co. Survey, 1 3/4 mi nw of Fleming-Graham pool, nearest.	3-21-45	9-29-45	4947	3417-3425	Strawn sd; Penn	P 25; 30 wtr	38.5	Ant; geol	Not important; no shows in lower zones.
Young	Spring Creek	Tom F. Hunter et al's G. H. Roach 2, 542 ft wel and 767 fr nsl of sw1/4 sec 304, TE&L Co. Sur., 1 1/4 mi e by s Spring Creek.	10-24-45	11-10-45	1234	1220-1227	Cisco sd; Penn	P 10; 10 wtr	.....	Ant; geol	Disc. preceded by a 5214 ft and a shallow failure on same unit. Not important.
		NORTH TEXAS—New Oil Pay									
Cooke	Almon	Owen M. Murray et al's A. T. Gregory 1, 2440 ft nsl and 2050 ft wel of J. M. Randolph Sur A-868, se of 2900 ft production.	9- 8-45	10-27-45	3485	3482-3485	Strawn sd; Penn	P 142	30	Ant; geol	Classed as stray sd; pay-off will be erratic; shallower discovery pay not present.
Archer	Burns-Benson	L. T. Burns et al's R. Campbell 1, 467 ft nsl and 1400 ft wel Sec 1388, TE&L Co. Sur., 1/2 mi se of 4600 foot Bend production.	8-25-45	11- 6-45	5097	5085-5097	Li; Miss	P 151	45	Ant; geol	Small productive area; not prod in field's 4600-ft Bend zone.
Young	Fleming-Graham	Fleming Oil Co. et al's R. T. Sweeney 1, 330 ft out nwc Section 2917, TE&L Co. Sur.	1-28-45	10- 2-45	4697	2880-2890	Strawn sd; Penn	P 10; 30 wtr	39	Ant; geol	Not important; missed pool's deeper pays.
		SOUTH CENTRAL TEXAS—New Gas Field									
Dimmitt	Carrizo Spgs	Humble's H. S. Davis 1, 660 fr nw&swl lot 6 T&NO sur 15, blk 1, 534.5-ac lse.	6- 7-45	11-14-45	7550	2710-2717	Bavarros sd; U. Cre	F 5.75 mln; sw, some	.....	Flt; seis	Unimportant.
		WEST CENTRAL TEXAS—New Oil Pay									
Jones	Noodle	Humble Oil & Refining Co.'s Riley Horton 1, ne ne ne T&P Ry. 40, blk 18, deepened from pay at 2921-32 ft.	5-15-45	11-21-45	3261	3250-3256	Home Creek li; Penn	F 828; 3/4"	43.9	Ant; geol	Originally comp 7-8-38 as disc for field's 2921-32 ft pay; new pay found in deepening to Ellenburger and not likely to embrace any appreciable area. Topped Home Creek 3095 ft.
		SOUTHWEST TEXAS—New Gas Field									
Zapata	Echols	Geo. H. Echols' T. Dominguez 1, 660 sw of nel 660 se of nel 401-ac lse, Porc 31 Sh A.	4-25-45	11- -45	2242	1948-1968	.....	F no gge	.....	.....	Unimportant. Shut in.
		WEST TEXAS—New Oil Field									
Andrews	Bedford	Shell Oil Co.-The Texas Co.'s Ratliff-Bedford 1, c nw ne psl 4, blk 73, 5 mi w by n of Three Bar Field, nearest.	10-29-44	11- 1-45	11469	1st pay 8780-9150	Li; Devo	F 1105; 1/2"	42.9	Ant; seis	1st disc. in Permian Basin to log 4 prospective oil zones. Prod area prob'ly embraces 2000 to 2600-acs. Drl-stem test at 11,427-11,469 ft yielded 1st wtr in Ellenburger. Important discovery.
						2nd pay 11018-11320	Ellenburger dolo; Ord	F 1214; 1/2"	44.3	Ant; seis	
Gaines	Jones Ranch	Amerada Petroleum Corp.'s E. H. Jones 1-A c nw ne psl 3, blk A-6, 4 1/4 mi sw of Yoakum County sector of Wasson Field.	12- 2-44	11-13-45	11635	11181-11284 11380-11422	Li; Devo	F 1014; 1 1/4" 362 wtr	43.5	Ant; geop, geol	Prod from 2 zones of effectv pay, aggregating 105 ft; wtr tests only 23,000 PPM Chloride. Gas-oil ratio & flowing press subnormal. Recorded 170.6° F. temp at 11,400 ft. Unsuccessful attempt to dual complete in 9100-ft Wolf Camp. Possibly involves lge prod area. Deepest prod in W. Tex. Topped Devonian 11,181 ft.
Midland	.....	Humble Oil & Refining Co.'s Mrs. O. P. Buchanan 1, 660 ft ewl and 1980 ft snl of Wm. Baldridge Sur No. 32, 9 mi se Midland.	9-14-44	11- 6-45	12574	10370-10390	Li; Penn	F 270; 32 wtr 11/64"	45.7	Ant; geop	Logged effctv saturation above & below prod perfs. Pennsylvanian has accounted for only 1 imp oil fld in dist heretofore. Crude yld per ac this strike will not warrant extensive dev. Topped Ellenbgr 12,170 ft 1st prod in county.

Crane.....	Block 31.....	**WEST TEXAS—New Oil Fields (Continued)** Atlantic Refining Co.'s University 1-A-31 e ne se Sec. 33, Blk 31, 3½ mi w of McElroy Field.	1- 1-45	11-19-45	10458	8812-8869 10380-10458	Li; Devo Ellenburger dolo; Ord	F 775; ½" F 414; ½"	47.3 47.2	Ant; seis	Major sweet crude reserve with lse expirations forcing lge scale dev. Geophysical picture forecasts 3000-3600 prod acs. An aggregate of possibly 500 ft of effective pay in Devonian sect 7890-8895 ft; only perforated opp lwr 41 ft. Penetrated 167 ft of Ellenbgr pay without wtr, with top 89 ft cased off as safegrd against excessive. GOR. Ellenbgr failure 2 mi ne but may be reworked to test Devonian. Devon topped at 7890 ft. Ellenbgr topped at 10,291 ft.
Andrews...	Martin.....	**WEST TEXAS—New Oil Pay** Humble Oil & Refining Co.'s J. E. Parker 1, c nw ne pel 24, Blk A-41, sw/o to Clear Fork 6850-7030-ft discovery.	5-11-45	11-10-45	9072	8700-8790	McKee (Simpson) sd; Ord	F 577; ½"	42.3	Ant; geol	Involves fully dev struct below Permian & may prod from Ellenbgr near apex. Dist's Simpson prod heretofore confined to Crane and Pecos Cos. & nominally in Big Lake fld. Single well reserve of 450,000-600,000 bbls. Ellenbgr topped at 9030 ft.
Andrews...	Fuhrman-Mascho	**WEST TEXAS—Oil Field Extensions** Stanolind-Continental-Superior Oil Co.'s University 1-R, c se se Sec 5, Blk 9, 1½ mi se outpost.	2-17-45	11- 2-45	5539	4340-4400	Grayburg & San Andres li; Perm	F 104; 14 wtr	28.9	Ant; geol	Av crude yld per ac in this ext area subnormal; well classed as marginal. Topped Holt at 5475 ft. Topped Grybrg & San Andres at 4410 ft.

[1] Character of producing formations abbreviated thus: ch, chalk; dolo, dolomite; li, limestone; sd, sandstone; sh, shale, ser, serpentine; cgl, congolmerate. Ages of formations abbreviated thus: Pleis, Pleistocene; Plio, Pliocene; Mio, Miocene; Olig, Oligocene; Eoc, Eocene; U. Cre, Upper Cretaceous; L. Cre, Lower Cretaceous; Jur, Jurassic; Tri, Triassic; Perm, Permian; Penn, Pennsylvanian; U. Miss, Upper Mississippian; L. Miss, Lower Mississippian; Devo, Devonian; Sil, Silurian; Ord, Ordovician; Cam, Cambrian.
[2] Barrels of oil per day (24 hr. rate) flowing (F), pumping (P), swabbing (Sw), or bailing (B); or million cubic feet of gas daily open flow capacity; size o fchoke given in inches. [3] Type structure abbreviated as follows: Ant, Anticline; D, Dome; Fld, Fold or Folded; Flt, Fault or Faulted; M, Monocline; N, Nose; SD Salt Dome; Str trp, Startigraphic trap; Syn, Syncline; Ter, Terrace. [4] Method of discovery abbreviated as follows: cd, core drilling; dr, drilling; geol, geology; geop, geophysics; grv, gravity meter; ran dr, random drilling; seis seismograph; sub, subsurface geology; sur, surface geology.

Drilling With Atomic Power Proposed

By Francis N. Bosco,
Petroleum Engineer, Denver, Colorado

A REVOLUTION has caught us up, and we are silently being swept into a "strange new world" in which *open and non-secret manufacturing must be conducted*, and in which the newspapers and news agencies of the world *must* be directed and required to publish all available facts bearing on any world situation.

This force is stronger and more certain than the typhoons which swept in after the Atomic bomb explosions, because without this "required honesty" within five years any nation can produce the 100 or so pounds of Uranium isotope necessary for the destruction of any given ten cities. The "secret" has been practically made available to any active, sufficiently equipped, group of scientists, and the source is uncontrollable (Uranium derives its name from the Ural Mountains, one of its principal sources). With this in mind, I wish to suggest an application of the atomic power to oil well drilling. Since the U. S. controls this, I am therefore protected by disclosing my idea, having in mind the physical application when the material is made available for use.

Application: To drill with atomic power.

Basis: If 11 pounds of the Uranium Isotope can produce an explosion four miles in diameter, then by proportion, "x" pounds can produce a disintegration of four inches in diameter. x equals .00256 ounces maximum. Using this weight, a wire (which feeds one pellet of Uranium down one side of the drill) it would be advanced with the other element on the other side of the drill stem. A paraffin wafer would then be placed between the two to direct the neutron flow into the isotope, and the disintegration would occur. Each four-inch advance would require a pellet, a paraffin wafer, and a corresponding amount of the other known element. The waste material would be expelled up the hollow drill stem by the explosion.

Completions Spurred

■ CONTINUED FROM PAGE 17

thereafter climb on to new record-breaking levels. It is recognized, furthermore, that the proving-up of new crude reserves is a slow and tedious process, that it is necessary to be working and drilling now toward establishing producible reserves that will be needed to meet the larger demands of several years from now.

Despite the stepping up of exploratory activity in the closing portion of the year, wildcat completions of 1945 will fall materially short of the 5000-well objective scheduled by the Petroleum Administration for War. Through the first 11 months, 4018 exploratory tests had been completed, indicating that the year's total will be less than 4400 completions of this class. This will be, however, somewhat more than the 4324 exploratory completions of 1944 and will represent a new all-time record in wildcatting.

During November exploratory wells were completed at the rate of 91 per week, compared with 82 weekly in October and an average of 84 weekly for the first 11 months of 1945.

Results Improved

Results were better than normal in November, as 22.9 percent of the wells completed were productive. That compared with the poor record of 13.7 percent productive among October completions and was well above the 18.5 percent productive for the 11 months, January-November, 1945. For this year as a whole, the success ratio has been about the same as last year, 18.1 percent of completions in the first 11 months of 1944 having yielded production,

With the success ratio fractionally better than last year and somewhat more wildcats being drilled, there have been slightly more productive exploratory completions in 1945 than in 1944.

Fewer major extensions to existing fields have been reported this year than last year, but there have been more discoveries of new fields and new pay horizons. There have been 7 percent more new oil fields found in 1945 than in 1944 and 3 percent more new oil pay zones discovered. Discoveries of new distillate fields have been the same in number as last year, and new distillate pays have been opened in 11 fields this year against nine last year. Gas fields have been discovered in 6 percent greater number this year than in 1944, and new gas pay discoveries have been about the same.

Bureau of Standards Makes Automotive Fuels Study

Automotive engines can be successfully operated on a number of fuels other than gasoline but for best performance would require adaptation of the fuel system for the particular fuel used, it was reported last week by the National Bureau of Standards.

A study of the performance of typical automobile engines when operating on non-petroleum fuels was undertaken by the bureau at the request of the Foreign Economic Administration, apparently with a view to solving the motor fuel problem of foreign countries by encouraging the export of products other than gasoline.

Tests were made on two 1942 Plymouths, a 1942 Chevrolet, and a 1940 Ford V-8 and road load tests were run on one of the Plymouth engines at various speeds. Products tested included ethyl alcohol, acetone, butanol, gasoline and four blended fuels. The study showed that the intake manifolds of the engines ran cooler with the substitute fuels than with gasoline and that the maximum power with ethyl alcohol and with some of the other fuels was slightly greater than with gasoline.

In operation with low-proof alcohols, however, excessive amounts of fuel were required. With blends lower than 140-proof, auxiliary jets were necessary and with some of the lower-proof blends, auxiliary fuel pumps had to be installed.

The Engineering Approach Reservoir Controls

By SYLVAIN J. PIRSON

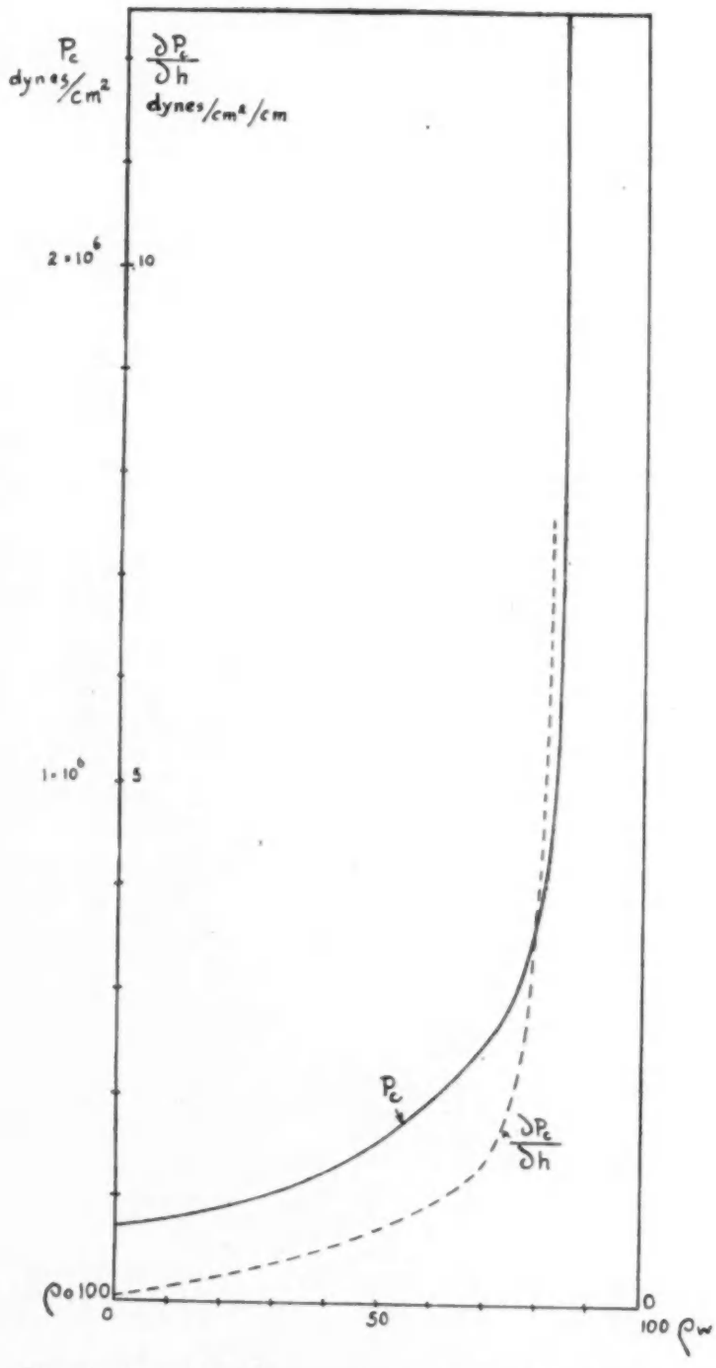


Figure 1. Assumed capillary pressure and vertical capillary pressure gradient as a function of water saturation.

SCIENTIFIC reservoir control, aimed at maximum ultimate oil recovery, presupposes the existence of reasonably accurate forecasting means of the expected performance of a field under existing or assumed operating conditions.

The elements which define the engineering performance of a field may be listed as follows:

(a) Average bottom hole pressure as a function of time (t) measured from the beginning of production, as function of cumulative recovery (η) or as function of oil saturation (ρ_o).

(b) Instantaneous Gas Oil Ratio (R) as a function of time (t), cumulative production (η) or oil saturation (ρ_o).

(c) Recovery or Production rate as a function of time (t), cumulative recovery (η) or oil saturation (ρ_o).

(d) Productivity Index (P.I.) as a function of time (t), cumulative recovery (η) or oil saturation (ρ_o).

Required Data

Engineering calculations are necessarily based upon data obtained by measurements on the physical entities entering the problem. In the case at hand they may be grouped as follows:

(a) Characteristics of the reservoir container.

(b) Characteristics of the reservoir fluid.

The former may be secured by various operations now common in all new developments and accordingly well known. They will be listed only for the sake of completeness:

1. Core analyses of the producing formation for the determination of: Porosity (ϕ)
   - Dry absolute permeability (K)
   - Relative permeability to oil, gas and water (K_o, K_g, K_w)
   - Capillary pressure (P_c)
   - Connate water (C_w)
   - Original gas saturation (C_g)
   - Residual oil saturation (ρ_{or})
   - Gas-oil contact elevation
   - Water-oil contact elevation
   - Gas composition.
2. Formation testing as a verification upon the gas-oil and water-oil contacts.
3. Electric-logging for the measurement of productive thicknesses and further possible check on gas-oil and water-oil contacts.
4. Geological and geophysical structure maps as a means to first estimate the volumetric extent of the reservoir in advance of and before verification by the complete drilling development of the field.

The characteristics of the reservoir fluids are secured by means of bottom

To Oil

Scientific reservoir control presupposes the existence of reasonably accurate forecasting means of the expected performance of a field under existing or preassumed conditions. It is necessarily predicated upon the knowledge of natural as well as artificial recovery mechanisms or "drives" which are fundamentally three in number, namely: Water drive, segregation drive and depletion drive. The various drives are the object of modifications resulting from pattern flow, dips, connate water saturation, viscosity variations, rates of formation flow and sand heterogeneity. The various recovery mechanisms have their specific degree of ultimate recovery. Accordingly, it is pertinent to gauge the degree of effectiveness of each mechanism in a field in order to predict the ultimate recovery.

To this end the concept of a "Drive Index" is introduced and it is shown how such an index may be computed for each type of drive from the material balance equation for either a current production practice or any preassumed rate of withdrawal. As a result, the recovery program may be engineered so as to favor one or more types of drive in order to secure maximum recovery through the prescription of the most efficient rate of production.

The time element has been forcibly left out of this study. Its introduction brings in economic considerations with which the present paper is not concerned.

hole testing and sampling devices, the physical quantities measured being:

- Bottom hole pressure (P_o)
- Bottom temperature (T_o)
- Saturation pressure (S.P.)
- Original solution gas (S_o)
- Original reservoir volume factor (β_o)
- Solution gas released differentially (s_d) and corresponding reservoir volume factor (β_d)
- Solution gas released by flash vaporization (s_f) and corresponding reservoir volume factor (β_f)
- Shrinkage factor, flash and differential.
- Reservoir oil viscosity versus pressure (μ_o).

Considerable doubt exists with respect to the *accuracy* of certain of the above measurements. We have no way of knowing the true value of the physical quantities measured, as many systematic errors are introduced into the measurements. We assume generally that vaporization within the sand is differential and flash within the flowing string. Bottom hole pressure measurements are reduced to a common elevation datum by taking into account a head of oil equal to the elevation difference between the point of sampling and the datum plane notwithstanding the existence of shale breaks and other impervious streaks which prevent pressure equalization.

Reservoir oil viscosity, a most important physical constant, is seldom measured, leaving it to the engineer to make the best guess. An empirical reservoir viscosity formula which the writer has found useful where laboratory data are absent is as follows:

$$\mu_o = \frac{\beta_f \mu}{1 + 4(\beta_f - 1)\mu} \qquad (1)$$

in which μ is the viscosity of the stock tank oil at reservoir temperature.

If the accuracy of the measured quantities is on the lacking side, the *precision* of the measurements leaves much to be desired. The reliance which is placed upon the material balance equation is unjustified unless four significant figures are available for the numerical values entering the equation. This would require at least four repeated measurements whereas one reading is the accepted field practice and even these single measurements over a large field are reduced to extreme paucity.

Briefly, in the present state of affairs, the reservoir engineer is faced with the problem of making the best of a bad situation by juggling inaccurate and unprecise data, making reasonable guesses on the missing information and introducing them into an equation where both numerator and denominator are sums of differential quantities and, accordingly, extremely sensitive to small errors.

Oil reservoir control is necessarily predicated upon the knowledge of natural and artificial recovery mechanisms or "drives." One may distinguish three fundamental and distinct reservoir behaviors which may occur singly or in combination both naturally or artificially induced, namely:

1. *Water drive* (W.D.) as a result of natural edge water encroachment through artesian flow or by volumetric expansion of decompressed water as a result of pressure reduction[1].
2. *Depletion drive* (D.D.) also referred to as internal gas drive, solution drive, dispersed gas drive and dissolved gas drive, where the recovery is achieved through the liberation of solution gas.
3. *Segregation drive* (S.D.) also called gas cap expansion drive and often confused with gravity drainage[2]. The former term refers primarily to an operation where an appreciable pressure still exists in the field whereas the latter refers to a process where the field pressure is nearly depleted and approaches atmospheric pressure. It will be shown that the two processes are identical and accordingly they were classed under one heading.

All recovery mechanisms are essentially processes wherein differential flow takes place within the reservoir rock, namely, between the driving fluid (gas or water) and the driven fluid (oil)[3]. In the case of *water drive*, both fluids flow in the same direction and the recovery of oil is essentially dependent upon the relative permeabilities to and viscosities of the two fluids when no appreciable dip exists within the formations. This process can take place naturally as well as artificially (water flooding). In the case of *depletion drive*, similar conditions exist with the difference that solution gas is constantly depleted with the attendant reduction in field pressure and oil viscosity increase. Whereas in the case of a water drive we have the formation of a water front with steep saturation gradients and the attendant high recovery, in the case of the depletion drive we have no gas front formation and we obtain low recoveries. In the case of *segregation drive*, the two fluids, namely, the oil (driven fluid) and the gas (driving fluid) are moving in opposite directions (counterflow). This process can take place both at high pressure (gas cap expansion drive) naturally as well as artificially or at low pressure (gravity drainage). The required condition for counterflow to take place is essentially a function of the capillary pressure profile of the producing sand. Gas will move upward and oil downward between two levels 1 and 2 within the reservoir rock when

$$P_{c1} - P_{c2} < h\,(\Delta\rho)\,g \qquad (2)$$

where P_{c1} is the capillary pressure (oil gas interface) at the upper level (Positive for water wet sand)

P_{c2} is the capillary pressure at the lower level

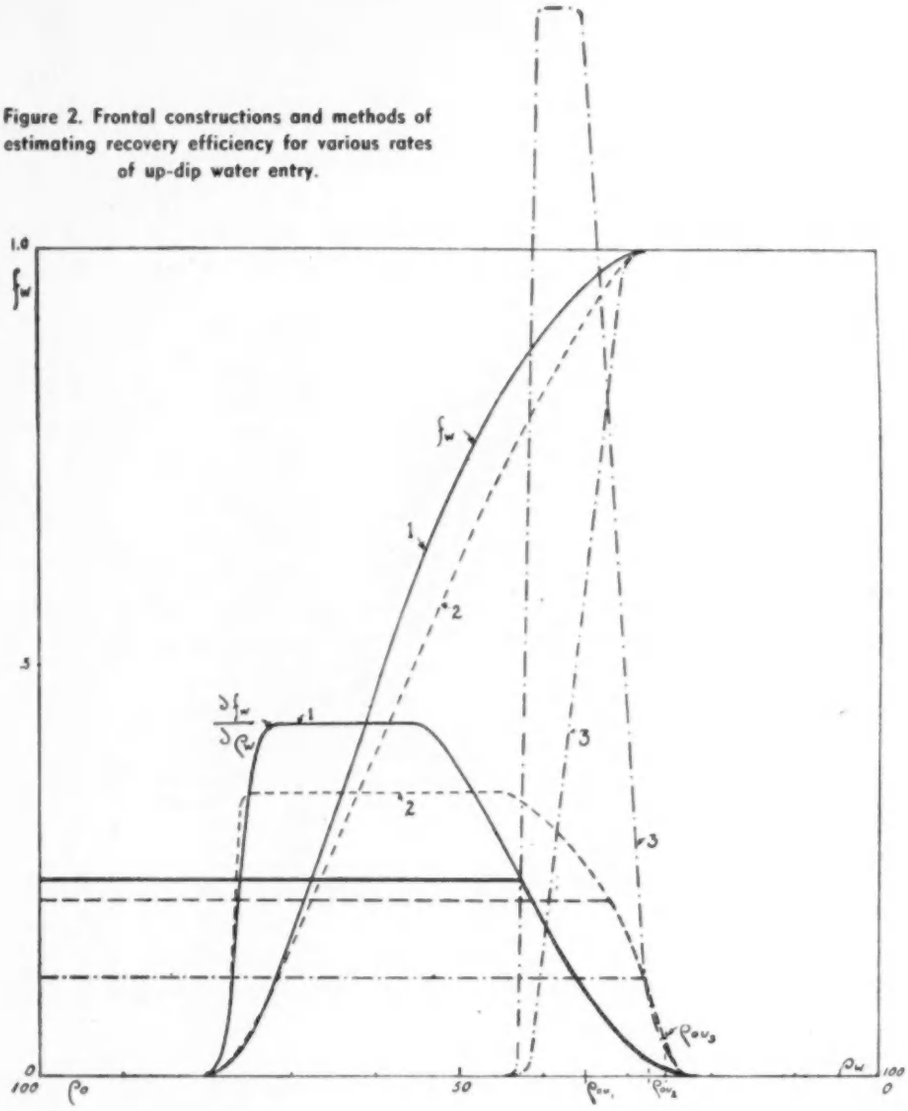
h is the elevation difference between the two levels

$\Delta\rho$ is the density difference between oil and gas

g is the acceleration of gravity.

The existence of high dips in the reservoir rock is not an absolute operative requirement of segregation drive provided bulk transverse permeability exists. Due to bedding and variations in the capillary pressure within each layer, saturation discontinuities will exist and considerable oil hold-up may result thereby, in relatively horizontal formations. For this reason, the process is generally considered feasible only in steep reservoir structures where counter-

Figure 2. Frontal constructions and methods of estimating recovery efficiency for various rates of up-dip water entry.



flow may take place efficiently parallel to the bedding surfaces.

Segregation drive appears to be the most efficient recovery process now known with residual oil saturations reaching as low as 10 to 12 percent[4,5]. By nature it is, however, a slow process as a result of counterflow, the flow of gas upward hindering the movement of oil downward. Considerable oil may also be held-up by capillary pressure downstructure but this can be recovered by the application of a pressure within the gas cap lower than the displacement pressure at the producing well's sand face. Segregation drive may be visualized as a *squeezing process* whereby the expanding gas in the so-called gas cap increases the curvature of the oil-gas interface thereby increasing the absolute value of the capillary pressure. This may be achieved only by gravitational removal of oil with the consequent lowering of oil saturation. A pressure increment within the gas cap will result in an additional lowering of the average oil saturation through a downward shift of the capillary pressure curve. An induced segregation drive under a pressure lower than the displacement pressure (so as to prevent gas break-through and consequent internal gas drive mechanism) may then be visualized technically (but not economically) as the most efficient recovery mechanism we possess.

Water drive, natural as well as artificial, is the next most efficient recovery process with residual oil saturation varying between 20 and 30 percent. As indicated by the literature[3] the ultimate recovery is essentially one of relative permeability to reservoir oil and to water as well as of relative viscosity of reservoir oil and water. In a horizontal drive the residual oil saturation is independent of the rates of drive and accordingly of the driving water pressure. In tilted formations the gravity component, parallel to bedding, of the moving oil may either hinder or favor recovery and the rate of entry of the driving fluid has an influence on the ultimate recovery. This may be seen from the following relation[(3)]:

$$f_w = \frac{1 + \frac{K_o}{q_t \mu_o}\left(\frac{\partial p_c}{\partial u} - g \Delta\rho \sin \alpha\right)}{1 + \frac{K_o}{K_w} \cdot \frac{\mu_w}{\mu_o}} \quad (3)$$

where f_w is the local value of the water fraction of the flowing oil-water mixture in an elementary reservoir volume

q_t is the linear rate of flow of all fluids

u is a space coordinate measured in the direction of the advancing drive

α is the reservoir dip angle (positive up-dip)

By projecting the vertical capillary pressure gradient $\frac{\partial p_c}{\partial h}$ upon the direction of flow, formula (3) becomes:

$$f_w = \frac{1 + \frac{K_o}{q_t \mu_o}\left(\frac{\partial p_c}{\partial h} - g \Delta\rho\right) \sin \alpha}{1 + \frac{K_o}{K_w} \cdot \frac{\mu_w}{\mu_o}} \quad (4)$$

An application of formula (4) was made to conditions existing in the Magnolia field, Arkansas, where the average dip angle of the structure is 5 degrees and the average permeability 1500 md. with 20 percent connate water. Many data were lacking for the computation, in particular those regarding capillary pressure P_c. Such a curve was assumed in Figure 1 in an unfavorable position for high recovery by water drive. The rate of entry of water (q_t) into the field was estimated to be 10^{-3} cm/sec or about 10 vertical feet per year. A reasonable relative permeability shift was assumed for the $\frac{K_w}{K_o}$ curves of Leverett and Lewis[6] due to the connate water. The results are shown in Figure 2. Curve 1 shows the values of the fractional water in the fluid flow in the producing formation if no dip was present. By introducing the distortion term of capillary pressure and gravity in the numerator of relation (4), Curve 2 is obtained when the vertical rate of water entry is 10^{-5} cm per second. If this rate is made 10^{-6} cm/sec, which would be a very low rate of water encroachment, Curve 3 is obtained. The graphical constructions for the frontal advances in each case are also shown. They permit the calculation of the residual oil due to water encroachment. For horizontal flooding, a residual (ρ_{ou1}) of 35 percent oil saturation is obtained whereas 27½ percent (ρ_{ou2}) results from the encroachment of water up-dip at a rate comparable to actual field practice. A tenfold reduction in this rate would result in another recovery gain of 1½ percent (ρ_{ou3}). Similar studies have shown that the slowest rate of water entry up-dip into a sand will yield the highest oil recoveries with the lowest residual oil whereas the converse occurs when the water entry takes place down-dip. In this case, recoveries comparable to those obtained by horizontal drive would be obtained by high speed flooding.

These observations offer a partial explanation of the high efficiency of certain artificial flooding operations under high water input rates[6]. It was further observed in the course of these theoretical studies that the presence of connate water is detrimental to reaching low residual oil saturations. Graphical calculations of the type shown in Figure 2 were carried out for horizontal water encroachment under assumed variable connate water saturations. The results of this investigation are shown on Figure 3. For the conditions assumed, it can be seen that both the percentages of oil in place recovered and oil saturation recovered decrease with increasing connate water saturation. When the latter attains 45 percent, the oil in place is completely by-passed by the advancing water front. A partial experimental confirmation of these results has been published by Cloud[8].

A frontal drive analysis similar to that

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BUT SAVE THE FIGHTERS

One Hundred blows per minute, hour upon hour, tour after tour, the Bail pounds the Swivel and wears deep cuts with metal-to-metal blows, and tears up valuable bearings. The Patterson-Ballagh Swivel Bail Bumper stands between these fighters and keeps them from tearing each other apart.

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here reviewed in the case of gas drive into a permeable media with variable degrees of connate water saturation shows that the residual oil decreases with increasing connate water saturation as is already well known from laboratory experiments[9]. However, the efficiency of the recovery on the basis of oil in place is limited at high connate water saturations by the increasing water-oil ratio in the flowing fluid mixture.

The writer has observed no theoretical justification for the postulation of a breakdown of the frontal analysis for either water or gas drives at high connate water saturation as was postulated by Dickey and Bossler[10] in order to explain the failure of water flooding operations in highly water saturated sands.

Depletion drive is the least efficient of our recovery mechanisms either natural or artificially induced with ultimate residual oil saturations ranging from 65 to 40 percent. This may be easily verified by means of equation (4) when the subscripts w are replaced by g for gas and by changing the sign of $\Delta\rho$, since gas is lighter than oil. Accordingly, by a construction similar to that of Figure 2 we conclude that down-dip gas drive is more efficient than up-dip.

There is, however, an important difference from water drive irrespective of the values of relative permeability and viscosity ratios; we are not justified in drawing a gas front as this is in contradiction with the facts since the source of the gas comes from the oil itself and the two phases are intimately dispersed. Recoveries may be calculated from a knowledge of the engineering constants and under various assumptions of produced gas returned to the reservoir as done by Tarner, Babson and Muskat[11, 12, 13].

Modifying Factors

The preceding review of oil recovery mechanisms does not take into account various modifying factors as they were essentially derived from observations and theories made on linear flow. It can be shown, however, that they remain unchanged in true radial flow at least as far as the recovery is concerned.

In pattern flow, where an array of oil and gas wells produces from the same reservoir it is practically impossible to produce oil by one mechanism to the exclusion of all others. This is particularly true under mechanisms depending on a relatively well defined front such as water and segregation drives. As a result of the non-uniformity of frontal advance, gas or water will break through to certain wells leaving behind a certain amount of oil, the recovery of which may be achieved only by the mechanism of depletion drive.

The effect of relative viscosity changes within a reservoir has been grossly neglected by students of reservoir performance under the blanket assumption that they are unimportant. As a result, measurements of fluid viscosities under reservoir conditions are dispensed with and their evaluation is left to the more or less judicious guess of the engineer. Reservoir oil viscosities are widely variable with the dissolved gas content, pressure and temperature. Gas viscosities also are a function of composition, pressure and temperature. For water it is fairly safe to assume a constant viscosity of one centipoise regardless of pressure and temperature though the saline content is responsible for slight variations. Under water drive conditions, especially in high pressure water-flooding projects, gas most certainly goes into solution in the oil in advance of the water front, thereby increasing the oil saturation and relative permeability, and reducing the oil viscosity. Accordingly, the numerical value of the denominator in Formula 3 is increased resulting in a higher recovery of oil. This offers another justification for the higher oil recoveries claimed under high pressure floods under actual field conditions[7] although it can hardly justify similar claims made from laboratory observations.

The heterogeneous character of most reservoir rocks is the main cause for disagreement between theoretical deductions and field observations. Inhomogeneities of the reservoir are responsible for the systematic errors entering the weighted average bottom hole pressure, effective reservoir thickness, effective reservoir volume, and other engineering quantities entering the computations as fundamental constants for the prediction of reservoir performance. Of more importance, they are responsible for the heterogeneous behavior of capillary pressure throughout the reservoir producing section. Under quasi-equilibrium conditions which presumably prevail during production operations, there must exist a continuity of capillary pressure at each layer interface[5]. This results in a discontinuous oil saturation profile leaving high saturation pockets in tight sands. This conclusion does not hold in layered strata of uniform thickness where the flow takes place parallel to the bedding plane, a condition which can hardly exist in nature. Wherever there are variations in layer thickness, lensing or flow across bedding surfaces, the capillary pressure barriers encountered by the flow are generally detrimental to high recovery.

Driving Indices

The recovery mechanisms reviewed above have variable degrees of ultimate recovery which may be calculated from the engineering fundamentals pertaining to the reservoir and its fluids through the application of the frontal drive theory[3] as modified to take care of special conditions or by the trajectory method of computation of Traner[11] or Babson[12] as the case may be or the numerical integration method of Muskat[12].

Geologic reservoir conditions are seldom such that one recovery mechanism predominates to the practical exclusion of all others. In any case it is always possible to promote or induce some other producing mechanism either naturally or through the judicious application

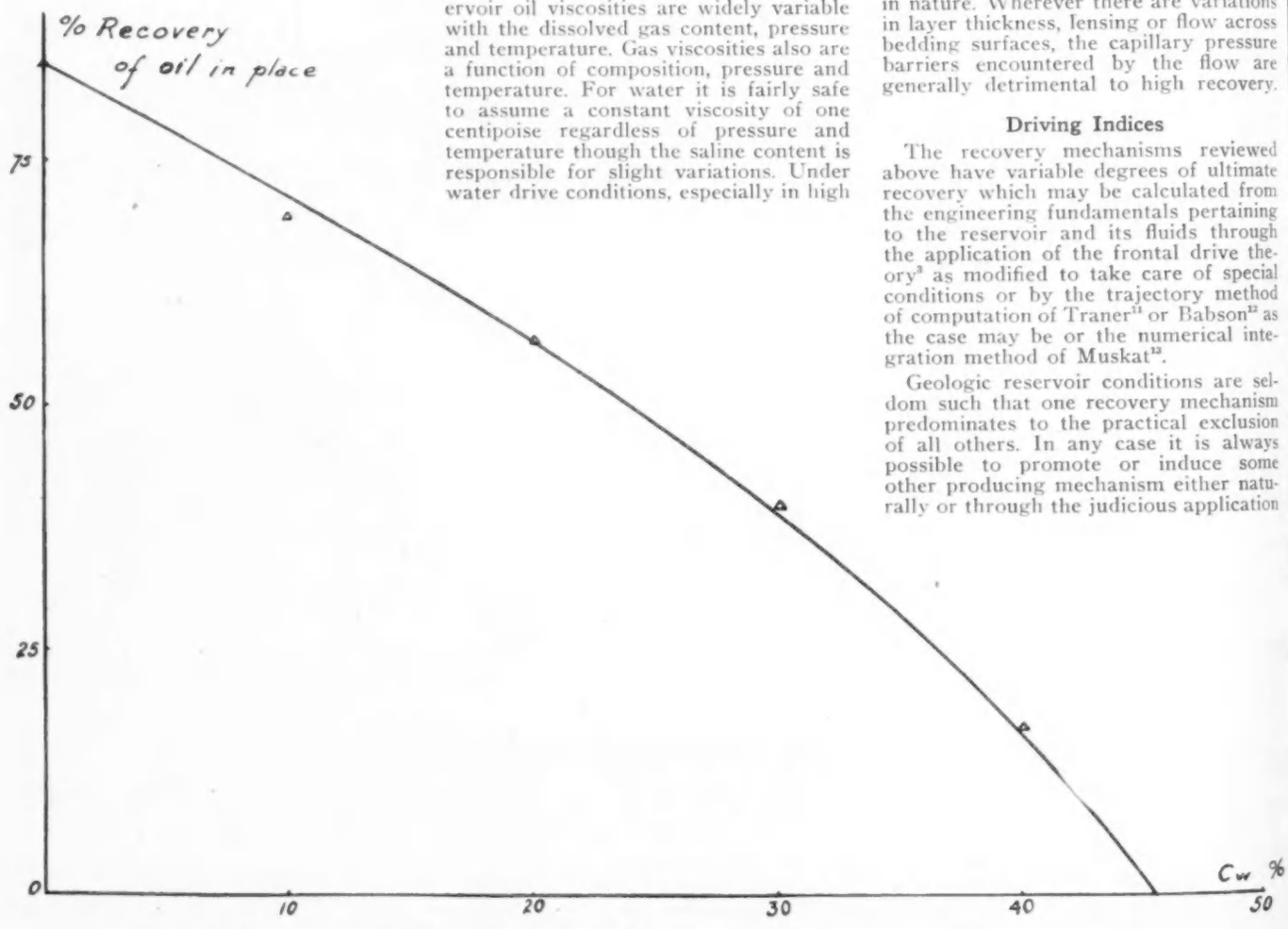

Figure 3. Variations of horizontal water-drive recovery of oil in place as a function of connate water saturation.

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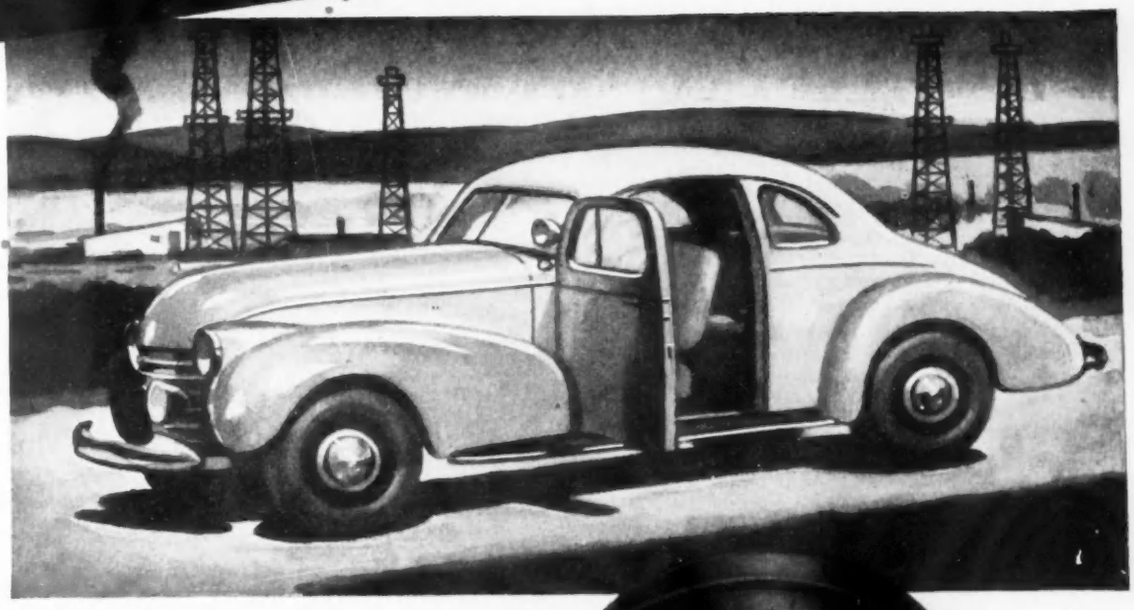

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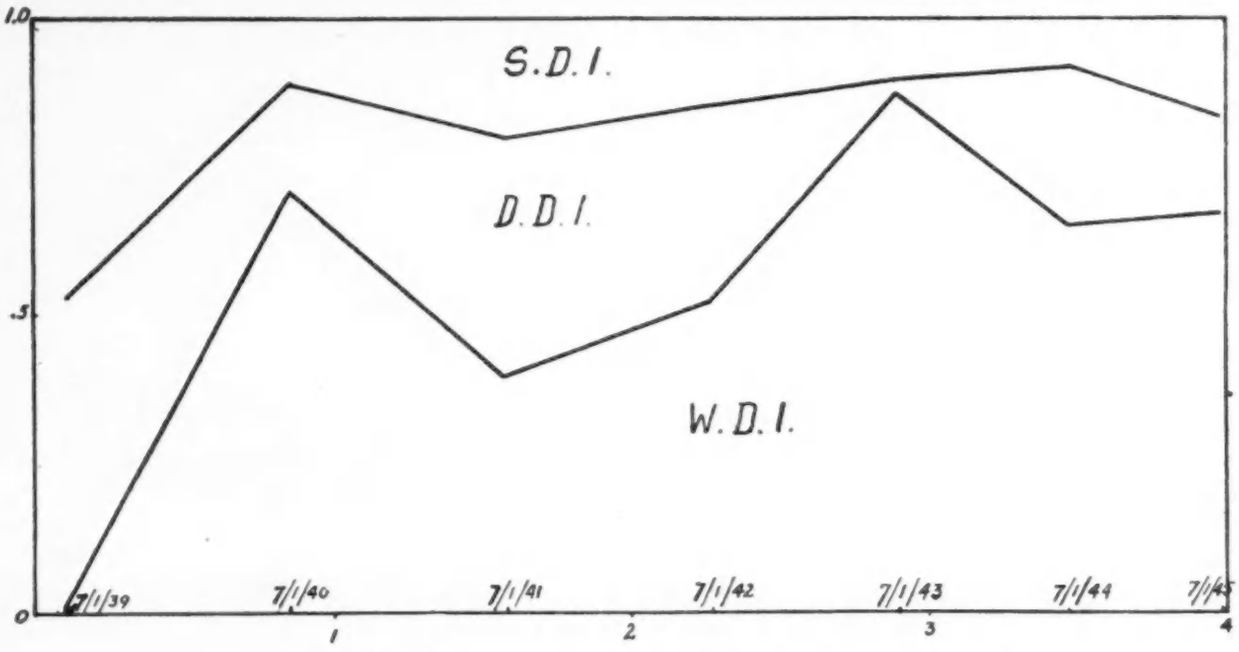

Figure 4. History of the driving indices of the Magnolia field, Arkansas.

of water and/or gas pressure to the reservoir.

In a given field under a currently practiced reservoir performance it is pertinent to gauge the relative importance of each mechanism in recovering the oil so as to be able to measure their effectiveness, predict the ultimate recovery and establish if some other performance would assure a higher ultimate recovery.

To this end the concept of *Driving Index* is introduced. This is an overall measure by means of a non dimensional figure of the degree of effectiveness of a particular mechanism in removing oil and gas from a reservoir. By definition the driving index of a particular mechanism is the ratio of the resulting volumetric fluid entry into the reservoir to the total reservoir volume of all the oil and gas removed.

Accordingly, the *Water Drive Index* (WDI) of a field is the ratio of the net water entry to the reservoir volume of oil and gas produced.

The *Segregation Drive Index* (SDI) is the ratio of the volumetric expansion of the gas cap to the reservoir volume of oil and gas produced.

The *Depletion Drive Index* (DDI) may be easily calculated by observing that the sum of the three indices is necessarily equal to unity. Hence, (DDI) = 1 — (WDI)-(SDI).

Driving indices may be computed from the material balance equation of the reservoir fluids for the currently practiced or for any preassumed reservoir performance. Equation 5 gives the material balance of a reservoir in the form derived by the writer[16].

$$N = \frac{\eta[\beta + \alpha\,(r_n - s)] - (W - w)}{m\beta_o\left[\frac{\alpha}{\alpha_o} - 1\right] + \alpha\,(S_o - S) - (\beta_o - \beta)} \qquad (5)$$

A transformation of this equation so as to bring into the denominator the reservoir volume of oil and gas produced $\eta\,[\beta + \alpha\,(r_n - s)\,]$, yields immediately:

$$1 = \frac{W - w}{\eta[\beta + \alpha(r_n - s)]} + \frac{m\,N\beta_o\left[\frac{\alpha}{\alpha_o} - 1\right]}{\eta[\beta + \alpha\,(r_n - s)]} + \frac{N\,[\alpha\,(s_o - s) - (\beta_o - \beta)]}{\eta[\beta + \alpha\,(r_n - s)]} \qquad (6)$$

Hence, the individual indices are obtained as follows:

$$WDI = \frac{W - w}{\eta[\beta + \alpha\,(r_n - s)]} \qquad (7)$$

$$SDI = \frac{m\,N\beta_o\left[\frac{\alpha}{\alpha_o} - 1\right]}{\eta[\beta + \alpha\,(r_n - s)]} \qquad (8)$$

$$DDI = \frac{N\,[\alpha\,(s_o - s) - (\beta_o - \beta)]}{\eta[\beta + \alpha\,(r_n - s)]} \qquad (9)$$

The knowledge of the individual driving indices permits calculating with fair precision the ultimate recovery percentage from a specified production practice instead of assuming such a figure from experience gained in neighboring field operations as is so generally practiced at this writing. In fact, the driving index is a weight factor which should be applied to the expected recovery by the corresponding mechanism. Hence, the overall field recovery factor for a specified performance is obtained by

$$\text{Recovery Factor} = [WDI \times r_w + SDI \times r_s + DDI \times r_d] \qquad (10)$$

r_w is recovery by water drive (fraction of total pore space)

r_s is recovery by segregation drive (fraction of total pore space)

r_d is recovery by depletion drive (fraction of total pore space)

Equation (10) offers a means of estimating with a fair degree of reliability the expected recovery by a currently practiced or preassumed reservoir performance. This, in turn, will be a guide as to which production practice should be favored in order to secure maximum recovery from the engineering standpoint and this will be a determining factor in prescribing the most efficient rate of production. By computing the various driving indices throughout the life history of a pool it is possible to follow quantitatively the effectiveness of the various driving mechanisms.

This study is notoriously lacking by its failure to consider the economic approach to oil reservoir control. Obviously, the factor *time* should enter into consideration if one is to prescribe a field rate of production which will allow an equitable return on the investment laid out by the operators. Generally, the most economic rate of production from a field will differ from the most efficient engineering rate of production from the standpoint of the largest ultimate recovery. The present engineering study is but a step toward solving the more complex economic problem, which, obviously, must be predicated upon a sound understanding of reservoir engineering principles.

Example

The Magnolia field, Arkansas, was selected as an example of application of the present theory.

Engineering data given in the U. S. Bureau of Mines R.I. 3720 (1943) were used as a basis for the calculations whereas the recent production figures were obtained from the pertinent Factual Data issued by the Arkansas Oil and Gas Commission (July 26, 1945). Whenever essential data were lacking they were assumed of necessity and will be so indicated.

(a) *Reservoir Characteristics:*

Original oil reservoir volume	345,550 acre feet
Original gas cap volume	74,000
Ratio of gas cap to oil reservoir volume (m)	.214
Porosity	.1682
Dry absolute permeability	1500 md.
Relative permeability to oil, gas and water (assumed to be those of Leverett and Lewis[6] with appropriate shift to account for connate water)	

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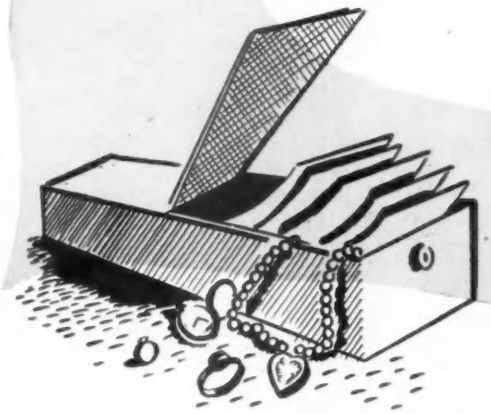

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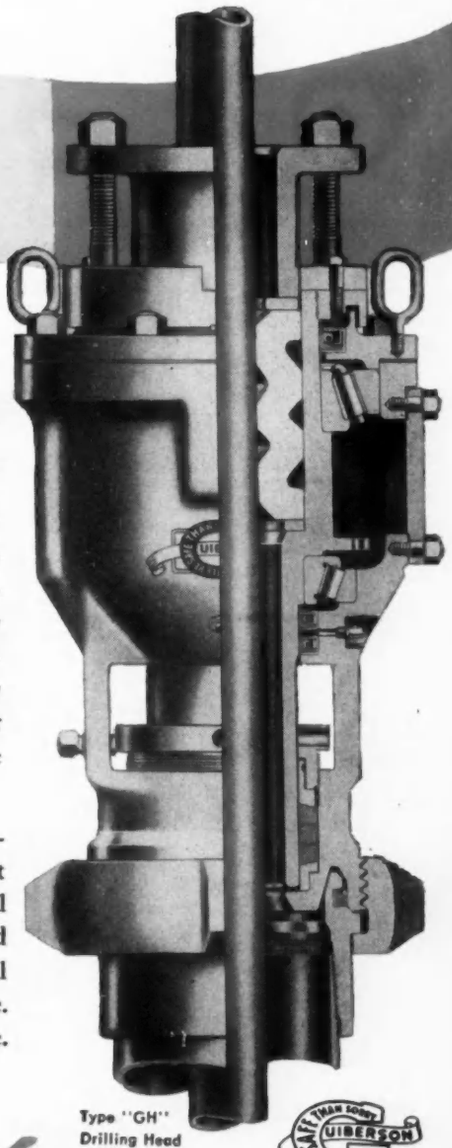

Type "GH" Drilling Head

TYPE "H" COMBINATION DRILLING HEAD AND ROTARY TABLE

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Capillary pressure—no information—it is assumed that residual oil saturation for segregation drive is 15 percent oil
Connate water saturation 20 percent
Reservoir rock (water-wet) assumed
Original gas saturation in oil zone 0
Original stock tank oil in place (by volumetric calculations) 244,400,000 bls.

(b) *Fluid Characteristics:*
Original bottom hole pressure (P_o) 3465 psi. g.
Bottom hole temperature (T_o) 206° F.
Original solution gas flash (S_o) 855 ft.³/bl.
Original reservoir volume factor—flash (β_o) 1.475
Original reservoir oil viscosity—calculated from assumed stock tank oil viscosity at 206° F. by formula (1)—μ_o 1.0 centipoise
Original reservoir gas viscosity—computed from gas composition from Bicher and Katz[16] 270 micropoises
Original compressibility factor (Z) .93

(c) *Production Data to June 30, 1945, and Fluid Characteristics:*
Bottom hole pressure (P) 2883 psi. g.
Cumulative oil production (η) 38,811,845 bls.
Cumulative gas production (r_a) 36,764,319,000 ft.³
Cumulative water production (w) 3,760,815 bls.
Reservoir volume factor (β_t)—flash 1.415
Solution gas—(S_t)—flash 720 ft.³/bl.
Compressibility factor (Z) .88

(d) *Recovery by Water Drive*—calculated by means of graphic construction of Figure 2 based on above pertinent engineering data r_w 52.5 percent.

(e) *Recovery by Depletion Drive:* r_d by Tarner's method[11]— 35 percent

(f) *Recovery by Segregation Drive:* r_s (assumed residual) 65 percent

(g) *Water Drive Index on June 30, 1945:* Solving the material balance equation for the total water entry to June 30, 1945 one finds W = 38,560,000 bbls. Accordingly:

$$WDI = \frac{W - w}{\eta\,[\beta_t + \alpha\,(r_a - s_t)]} = .547$$

(h) *Segregation Drive Index on June 30, 1945:*

$$SDI = \frac{m\,N\beta_o\left(\frac{\alpha}{\alpha_o} - 1\right)}{\eta\,[\beta_t + \alpha\,(r_a - s_t)]} = .165$$

(i) *Depletion Drive Index on June 30, 1945:*

$$DDI = \frac{N\,[\alpha\,(s_o - s) - (\beta_o - \beta)]}{\eta\,[\beta_t + \alpha\,(r_a - s_t)]} = .288$$

(j) *Ultimate Recovery Factor under current production practice:*

$$URF = .547 \times .525 + .288 \times .35 + .165 \times .65 = .495$$

(k) *Expected Ultimate Oil Recovery by present practice:*

$$UOR = 244{,}400{,}000 \times .495 =$$

121,000,000 bbls. of stock tank oil

Whereas the above indices refer to the overall performance of the field from discovery to the present time, the various driving indices may also be computed for specified intervals of time or production increments. This yields a performance history of the field and the result may be plotted in a graphical form in order to provide a pictorial representation at a glance. This was done for the Magnolia field for yearly intervals of time. The results are shown in Figure 4; in abscissa are plotted both the time and cumulative production; in ordinates, the three driving indices with the water drive index at the bottom and the segregation drive index at the top of the diagram. It may be noted that the water drive is very ineffective in the early life of the field whereas it averages about 60 percent in later years. The variations in the water drive index may easily be correlated with the pressure drop during the same time interval with the conclusion that a fast pressure decline results in a decrease in effectiveness of the water drive and in an attendant increase in the importance of the depletion drive mechanism. A graph of this type gives a barometer of the relative importance of the various driving mechanisms and permits gaging the effect on ultimate recovery of any change in the production practice.

Conclusions

It has been shown that the ultimate oil recovery from a field may be reduced to a reliable quantitative forecast when dependable engineering data are available on the reservoir, its fluids and production rates. Among these it appears that the measurements of relative permeabilities and viscosities as well as capillary pressure are the most essential; they are also those data for the determination of which no great effort is presently exerted.

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Lead Allocations Reduced For First Quarter 1946

Lead allocations to producers of tetraethyl for gasoline and manufacturers of passenger car batteries will be reduced in the first quarter of 1946, with the tetraethyl lead makers getting about 12,000 tons of the metal or 80 percent of their estimated use in the current quarter, it was announced last week by the Civilian Production Administration.

Approximately 4.2 million batteries for passenger cars will be provided for considerably under the current quarter's expected production but 1 million more than was manufactured in the first quarter of 1945. It is not anticipated however that the cut-back will result in any inability to meet demand.

In another amendment of the lead conservation order, the CPA barred the carryover of unused quotas of lead chemicals from one period to the next.

The cut-back in lead allocations was based on expected reductions in imports of 13 percent during the current quarter from the preceding quarter and 63 percent in the coming quarter from the third quarter of 1945, due principally to the extreme world shortage occasioned by the end of the war and the consequent reconstruction requirements of European countries. Domestic lead production increased slightly in the fourth quarter, but the mines still need about 4000 men.

To ease the situation, the government will dip into its stockpile to the extent of at least 25,000 tons during the next three months but made this relief contingent upon a cut in quotas. The federal holdings of lead will be below 50,000 tons by the end of March.

Hirst Is Named Director Of Hydrogenation Plant

Appointment of Dr. Lester L. Hirst of Pittsburgh as acting chief of the hydrogenation demonstration plant to be established at the Missouri Ordnance Works, Louisiana, Missouri, was announced December 18 by the Bureau of Mines.

Dr. Hirst has been assistant chief of the synthetic liquid fuels research and development division at Pittsburgh, and is a pioneer in American research on synthetic liquid fuels, having developed, in cooperation with Dr. Henry H. Storch, division chief in the laboratory-scale hydrogenation unit, much of the technical information needed for the design and operation of the commercial-scale demonstration plant to be set up in the ordnance works.

The bureau also announced that D. S. Taylor of Otis, Kansas, who has worked with the bureau since 1942 at the Amarillo, Texas, and Otis helium plants, as chief of plant maintenance, and J. A. Markovits of Pittsburgh, who joined the bureau in 1944 as a mechanical engineer after having worked in the same capacity for the Gulf Oil Corporation, as second assistant to Hirst.

Circulating Pump Operates on Gas-Lift Principle

By HARRY A HESS
Staff Writer

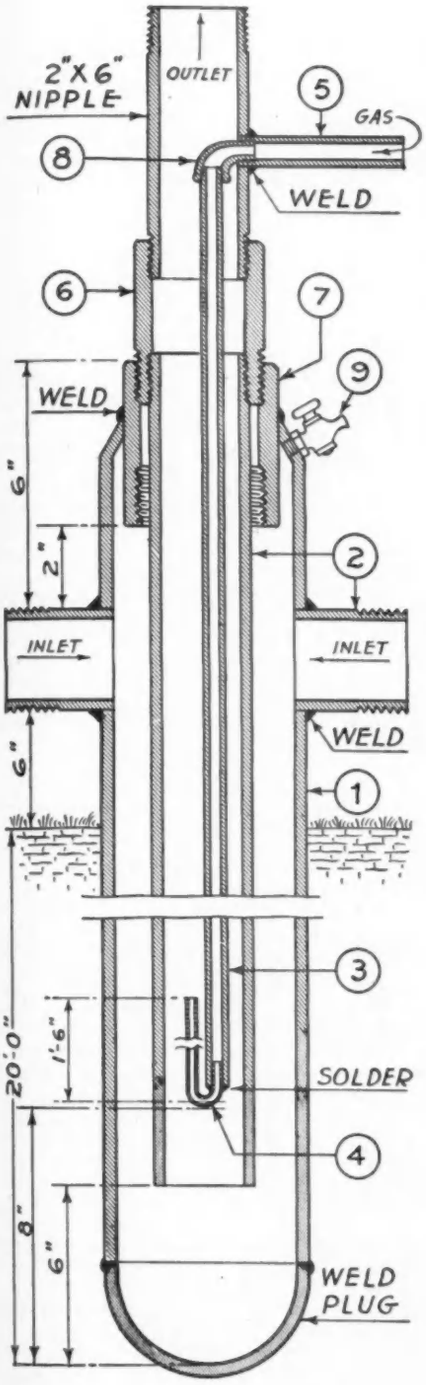
A CIRCULATING pump which operates by means of a gas jet has been designed and installed on several tank batteries by employes of the Midstates Oil Company in the Dickinson pool, 27 miles south of Houston. While the use of gas jets in circulating lines is not new, it was found that operating efficiency and capacity to move tank bottoms were much increased by placing the jet in a "well" about 20 feet below ground level, and allowing the discharge to empty into the top of the flume on the gunbarrel tank. When the gas jet was placed inside the bottom of a joint of two-inch pipe submerged in the liquid to be pumped, suction sufficient to move heavy tank bottoms was created on the inlet line.

The accompanying cross section shows how the pump is put together. A joint of four-inch pipe is welded shut on one end and a 2½-inch collar welded to the other end. Inlet lines are welded into the four-inch length about six inches from the top of the 2½-inch collar. By cutting threads on the outside of one end of a two-inch collar a hanger is made which screws into the top of the 2½-inch collar. A two-inch piece of pipe long enough to reach within six inches of the bottom of the four-inch has the two-inch collar on top and is suspended inside the four-inch. At the top of the space between the two pipes, a gas bleed-off valve is fitted into a ¼-inch hole tapped in the top of the four-inch pipe. This connection is used to bled off entrapped gas in the annulus between the two-inch and four-inch pipes in case a tank has been emptied and gas drawn into the pump from the stock tank. To connect the gas pressure line, ¼-inch pipe threads are first cut in the end of a ⅜-inch nipple, and a hole cut with a torch in the side of the 2x6 nipple. A ¼-inch street ell is placed inside the two-inch nipple and the ⅜-inch nipple screwed into the street ell. The ⅜-inch nipple is then welded to the two-inch pipe. The female end of the street ell carries a piece of quarter inch pipe long enough to reach to within two or three inches of the bottom of the two-inch pipe. On the bottom of the ¼-inch pipe is soldered an 18-inch piece of ⅜-inch copper tubing, the tubing being shaped into a U-bend so as to direct the discharging gas upward. This assembly is lowered into the two-inch pipe and the 2x6 nipple screwed into the top of the two-inch collar. The pump is now complete and ready for installation.

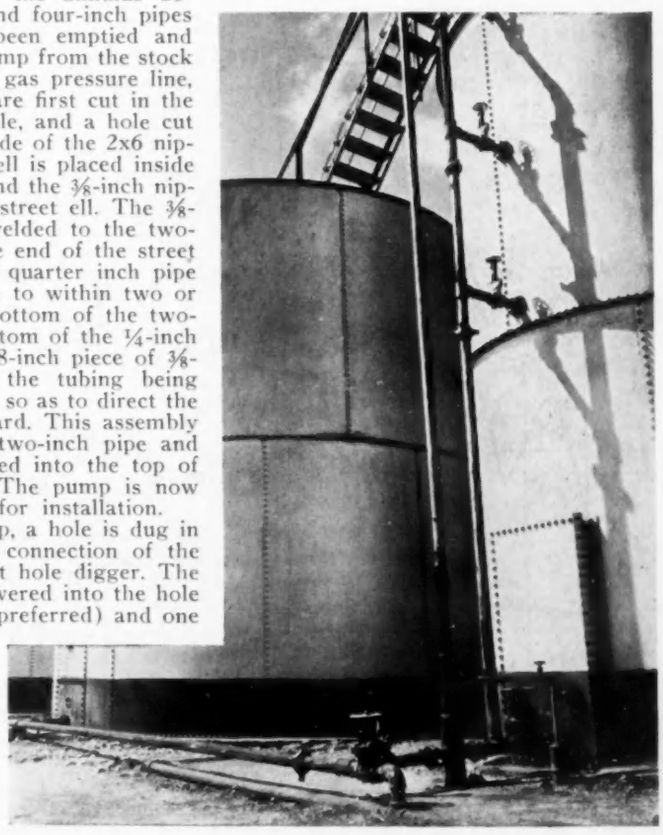
To install the pump, a hole is dug in front of the bleeder connection of the gunbarrel with a post hole digger. The pump assembly is lowered into the hole (a joint at a time, if preferred) and one of the inlet lines is connected to the bottom connection on the gunbarrel and the other to the drain line on the stock tanks. Before connecting up the drain line from the gunbarrel, a tee is installed in this line. A two-inch riser from this tee leads to three connections on the side of the gunbarrel. This permits the circulation of the "frog eggs" which collect between the water and oil back through the flume of the gunbarrel, to which the discharge from the pump is connected. The ⅜-inch gas line is connected to the lease gas supply which should carry a pressure of 25 pounds.

To circulate the emulsion in a stock tank, the valve on the tank with high bottoms is opened, and any entrapped gas from a previous run is bled off at the ¼-inch gas bleed off valve. The lease gas pressure is then slowly turned into the gas jet until proper flow is obtained. In case the bottom settlings are too heavy to move out of the stock tank, the gas jet is shut off and hot water from the gunbarrel is run back through the stock tank drain line. A section of ½-inch pipe, connected to the gas supply by means of a rubber hose, can then be thrust into the tank from the hatch to stir up the bottoms. Since there are no check valves or pistons in this pump, the hot water can be returned to the stock tanks as often as necessary to obtain a clean tank. However, once this device was put in operation, the cleaning of a tank proved so simple that it is done often enough that no special arrangement is usually necessary.

Where residue gas is plentiful, as it is in this field, this pump is quite satisfactory. This company has been using them for over five years without experiencing any trouble.



Cross section of circulating pump, above. (1) Four-inch pipe, (2) two-inch pipe, (3) ¼-inch pipe, (4) ⅜-inch copper tubing, (5) ⅜-inch pipe with ¼-inch threads on inside, (6) standard two-inch collar with outside threaded for a hanger, (7) 2½-inch collar, (8) ¼-inch street ell, (9) gas bleeder cock.



Right, circulating pump showing inlet lines from connections on side of gunbarrel which allows the circulation of tight emulsions between water and oil levels.

Trends in Petroleum Operations

By RICHARD J. GONZALEZ, Humble Oil & Refining Company

THE end of the war has brought about sudden and sharp changes in the operations of the petroleum industry. There is great interest currently as to the prospects for the next year. Numerous forecasts have been published recently of petroleum demands for varying periods, ranging from one to 20 years. This analysis will be concerned primarily with the basic trends governing demand in the United States, rather than with estimates of future operations.

The oil industry has experienced a remarkable expansion during the past quarter of a century, particularly during the past decade. The statistics presented herein for the period 1936-45 bring out clearly the fact that there was a substantial normal growth in demands that would have continued to exert an important influence on operation regardless of the war. In spite of the disturbances created by the war, total petroleum demands on the United States in 1946 will be only moderately lower than the level indicated by projecting the growth trend of 5 percent annually that prevailed during the period 1936-40.

Trends in Demands for Major Products

The principal petroleum products are gasoline, residual fuel oil, and the kerosine-distillate fuel oils, which are combined in this discussion because of their similar seasonal fluctuations. These three classes account for approximately 40 percent, 28 percent, and 17 percent, respectively, of the total domestic and export demand. The growth trends for these products showed substantial differences in the prewar period 1936-40. These trends, if continued, will influence refinery operations and yields in the future.

The demands for the major petroleum products are shown in Figure 1. It will be noted immediately that the seasonal fluctuations in gasoline are counteracted by those of residual fuel oil, kerosine, and distillate. The general upward trend in demand, together with the rapid growth in consumption of heating oils, has caused demands in recent years to reach a peak in winter rather than summer.

The trend lines shown on the chart reflect the average growth during the period 1936-40. The rate of increase was greatest for distillate and kerosine, which together advanced 8.5 percent annually. Gasoline showed an increase of 4 percent annually, and residual fuel oil an increase of only 2.5 percent. The extent to which unusual war demands, such as requirement of fuel oil for the Navy, distorted recent consumption in relation to normal trends is apparent from the chart. In spite of the war, demands for gasoline, distillate, and kerosine have continued to follow the 1936-40 trend reasonably well, reflecting the offsetting influences of military requirements and restricted civilian consumption.

Present indications, as reflected by the forecasts of the Petroleum Administration and the Economics Committee of the Petroleum Industry War Council, are that demands for the major products in 1946 will be about 10 or 12 percent under the 1944 record. The decreases expected average about 17 percent for residual fuel oil, 12 percent for gasoline, and 2 percent for distillate and kerosine. In general, the effect of the changes should be to place demands for the major products relatively near the level that might have been anticipated, assuming continuation of the 1936-40 trends.

Demand and Supply

The second chart shows total United States demand and supply, including exports and imports which are shown separately on a later chart. Demand for all petroleum oils increased from about 3 million barrels daily in the first quarter of 1936 to 5,575,000 in the first quarter of 1945. The average demand in 1945 will show an increase of 22 percent over 1941 and 60 percent over 1936. The rate of growth in domestic demands has been nearly the same as for total requirements. In the period 1936-40, demand increased at an average rate of 5 percent annually.

Domestic production has kept pace with demand throughout the last ten years in spite of the tremendous growth in consumption. This reflects credit to the oil industry, and particularly to the policy of conservation that has been followed by a number of the important producing states. The influence of such policies on production by states is evident on a later chart.

Petroleum Stocks

The additions to and withdrawals from stocks reflected by the difference between demand and supply on Figure 2 have brought about the changes in stocks shown by Figure 3. The downward trend in petroleum stocks in effect since 1941 reflects the withdrawal from inventories of about 100 million barrels during the past four years. This served to eliminate some accumulations of the depression years and to reduce stocks in most areas to about minimum working levels. The principal draft on stocks during the war has been in California, where a reduction of 70 million barrels in the past four years has cut stocks in half. Stocks east of California have been reduced only about 30 million barrels, or 7 percent, since the end of 1941.

Stocks of all oils at the end of this year will be equivalent to about 100 days' supply in relation to the anticipated demand for 1946. This is a relatively satisfactory level for the nation as a whole, although some areas may need somewhat larger stocks to provide for efficient and economical operations. Such additions to stocks as may be desirable probably will be relatively small. There is little need for any large accumulation of stocks in order to carry on the anticipated operations of the early postwar period. It should be anticipated, therefore, that supply will be adjusted rather closely to changing demands.

The war brought about drastic changes

Presented by Richard J. Gonzalez, Economist, Humble Oil & Refining Company, before the Interstate Oil Compact Commission at Wichita, Kans., December 14, 1945.

FIGURE 1

Trends in Total U. S. Demands for Major Petroleum Products

(Thousand Barrels Daily)

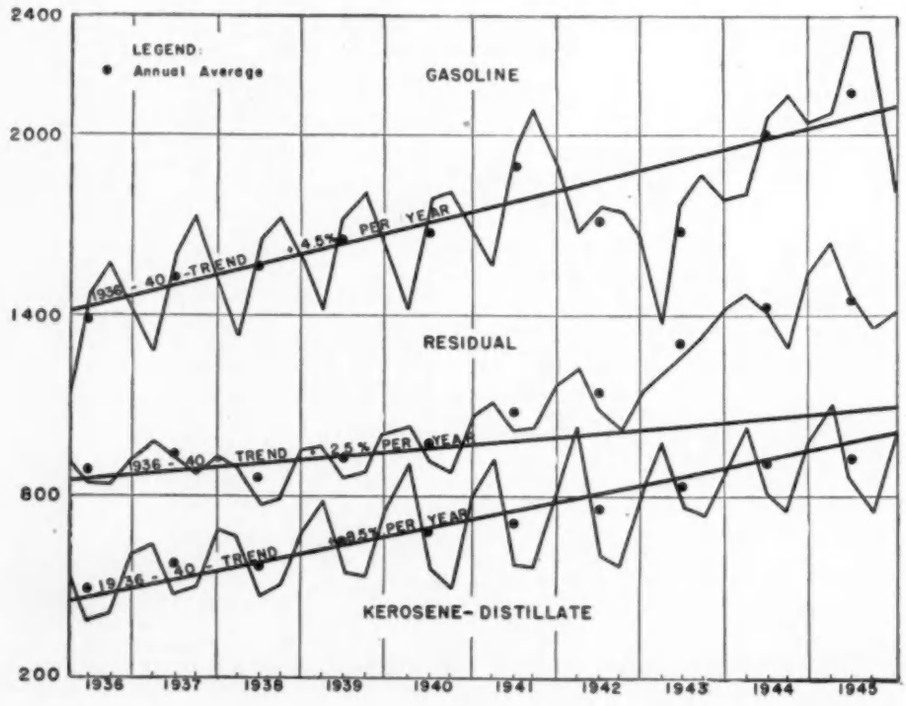


FIGURE 2

U. S. Demand, Supply and Production All Petroleum Liquids

(Thousand Barrels Daily)

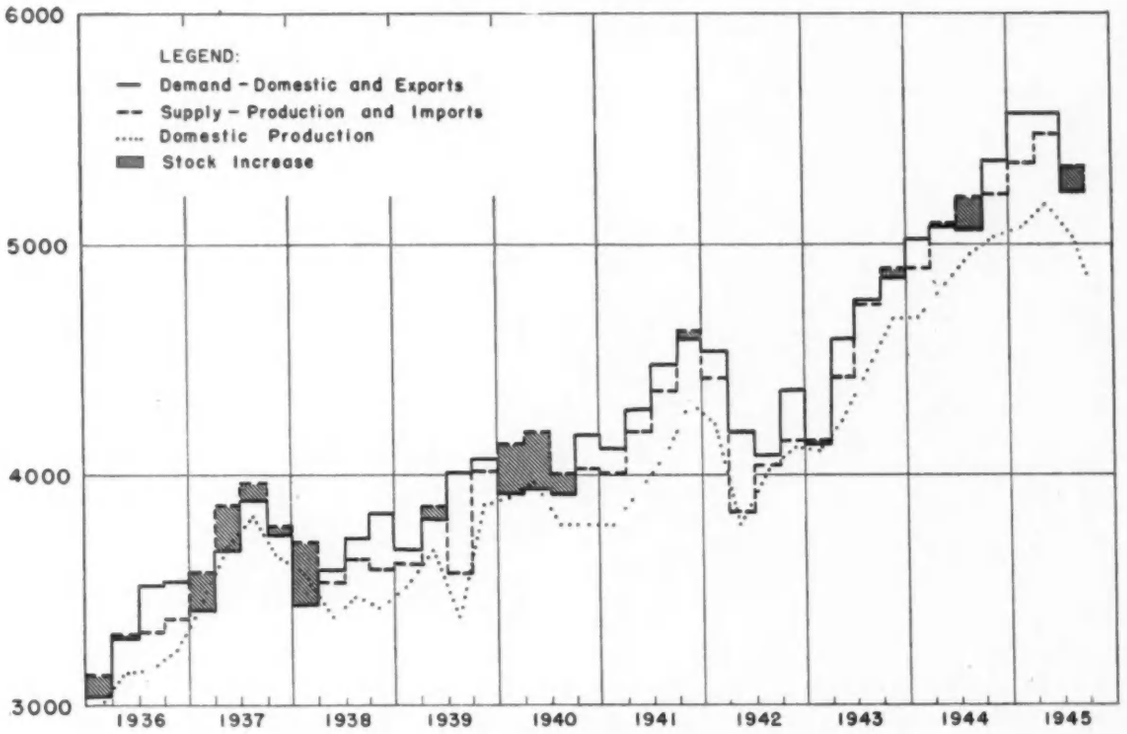


FIGURE 3

U. S. Petroleum Stocks—End of Year

(Millions of Barrels)

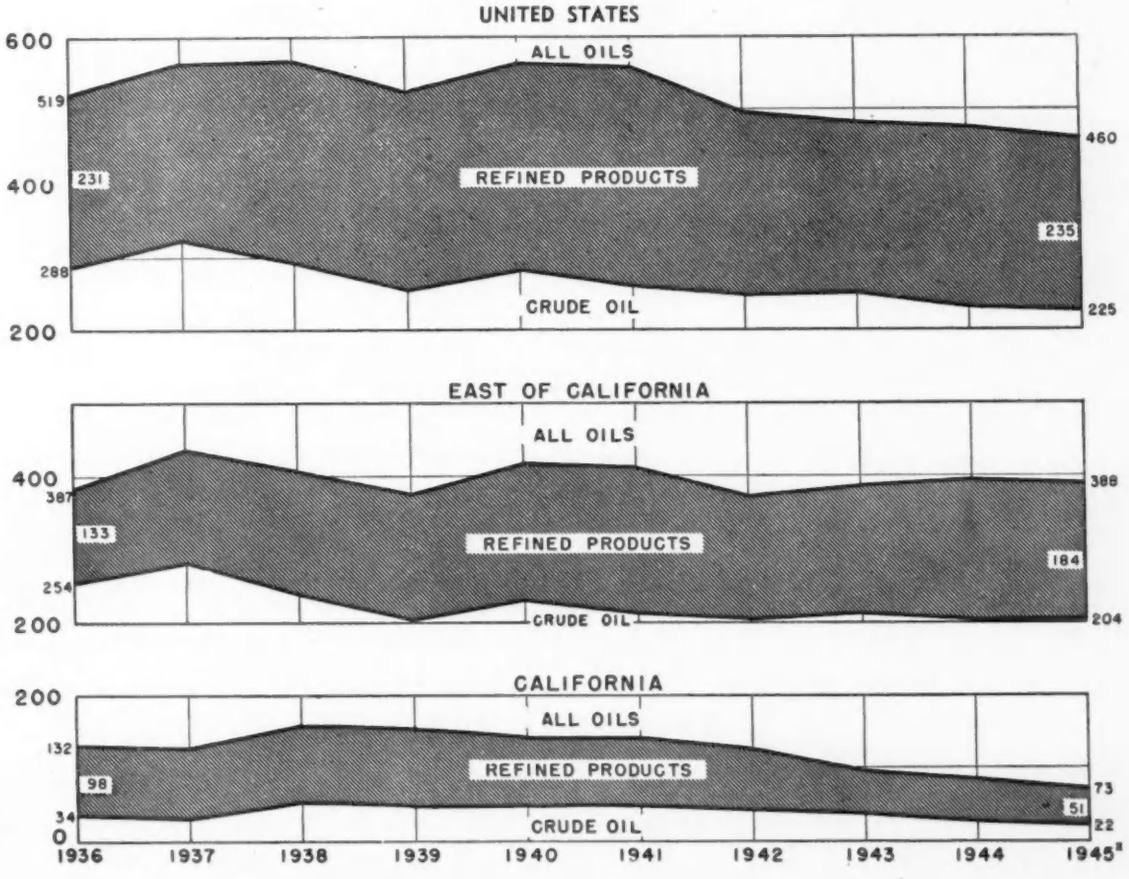
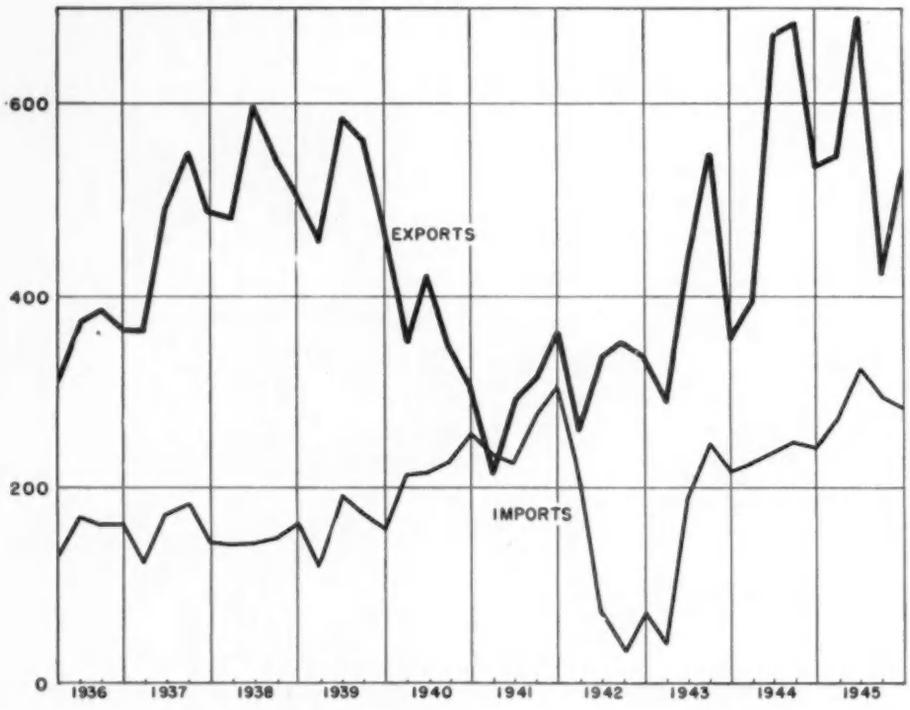


FIGURE 4

U. S. Petroleum Exports and Imports

(Thousand Barrels Daily)



in petroleum exports and imports. Petroleum exports, which included shipments to overseas military forces and allies, showed a very substantial increase. They reached a peak of about 700,000 barrels daily in the second quarter of 1945, compared with an average of 360,000 in 1936. Exports have already shown a sharp decline, and are expected to drop even lower in 1946. This trend may become more pronounced in future years as domestic requirements increase in relation to ability to produce efficiently, and as foreign oil resources are developed to compete for foreign markets.

Imports of crude oil and products this year will be about 300,000 barrels daily, or about 55 percent as much as exports. During the war, exports increased to a greater extent than imports. It will be noted from Chart 4 that imports were drastically curtailed during 1942. This was due to the German submarine campaign and the shortage of tankers. Imports have since increased to about the 1941 average. While the chart does not show a separation betwen crude oil and products, it is significant that residual fuel oil is expected to account for 40 percent of the 1946 imports. Importation of this relatively low priced product, which generally sells for less than crude oil, permits realization of higher valued products from domestic crude than could otherwise be attained.

Petroleum Production

The production of crude and natural gasoline in the United States in 1945 will average nearly 5 million barrels daily, exceeding the levels of 1936 and 1941 by 60 percent and 22 percent, respectively. The trend of production by areas is shown in Figures 5 and 6.

Natural gasoline production has nearly tripled in the past nine years, according to the reports of the Bureau of Mines. Production this year will average about 310,000 barrels daily, compared with 117,000 in 1936. The gain is due in large part to the output of cycling plants, which have been developed rapidly since 1938. Production of cycling plants now averages probably 100,000 barrels daily. Natural gasoline plants have also shown an increase in production, but at a less spectacular rate. The reported production of natural gasoline is now about 20 percent higher than in 1939.

The principal expansion in natural gasoline production has occurred in Texas and Louisiana, where cycling operations are of greatest importance. Texas increased from 34,000 barrels daily in 1936 to 145,000 in 1945, while Louisiana increased from 5000 to 35,000. California has shown a steady gain in natural gasoline production since 1936, but Oklahoma has remained relatively constant.

The rapid growth in United States production of crude oil between 1936 and 1945 is shown in Figure 6. In the first five years of the period, the greatest expansion occurred in Texas and Illinois. In 1941, Illinois was still near its peak production, but already beginning to show signs of decline. During the war years, Illinois production has decreased nearly 50 percent, whereas production for the United States as a whole in 1945 was 25 percent higher than in 1941. As indicated by the chart, the most important increases in production occurred in Texas and California. These states will produce in 1945 approximately 50 percent more than they did in 1940. Louisiana, Kansas, and Mississippi have shown substantial increases in the same period, while Oklahoma, New Mexico, and the Eastern States have declined.

Outlook for 1946

The oil industry faces the unusual experience in 1946 of a sharp decline in demand. Total anticipated requirements of about 4,800,000 barrels daily will be about 10 percent less than in 1945. This will be the largest decline in the history of the industry, exceeding the decrease of 9 percent in 1932. Except for the depression years of 1930-1932, petroleum consumption has decreased in only three years in the past quarter century—1921, 1938, 1942—and then only by 1 or 2 percent. The industry is so accustomed to steadily expanding volume that a decline of the magnitude indicated for next year presents difficult problems.

The magnitude of the required postwar adjustments is indicated by the forecast of production shown on Figure 6. The probable output of crude oil required to balance demands in 1946 will be about 4,150,000 barrels daily, representing a decrease of over 500,000 or 11 percent. The difference between the production peak of 4,890,000 in July, 1945, and the low point of about 4,200,000 early in 1946 will result in a maximum range of about 700,000 barrels daily or 15 percent. Since this change will probably be concentrated to a large extent on the areas that were called upon to supply so much of the additional oil for war, the greatest shock will be felt in Texas and California. The problem is a general one, however, and producers of all states should be forewarned of the decline that will occur in requirements for crude oil.

Lower production in 1946 will mean a sharp increase in the unit cost of producing crude oil. During the war, rising costs for labor and materials were substantially offset by larger volume, so that the usual accounting methods reflected only a moderate increase in cost per barrel. The sharp decline in volume next year, together with advancing wage rates, will exert a cumulative influence to bring about much higher unit costs of production than indicated for 1944-45. This development and the high replacement cost being experienced generally throughout the industry provide convincing proof of the need for an increase in ceiling prices on crude oil and refined products, or complete removal of such ceilings at an early date, so that normal economic forces may be allowed to determine price levels conducive to the sound functioning of the industry for the future.

The year 1946 will mark the difficult phase of the postwar transition for the oil industry. Unless some unusual circumstances arise, it is anticipated that the upward trend in petroleum demand will be resumed in 1947 and continue at a moderate rate for several years thereafter. It is essential, therefore, that the necessary adjustments be made promptly and smoothly, so that a sound basis may exist for future developments. The problems ahead can be overcome just as efficiently as those encountered in supplying unprecedented wartime demands. While changes in volume will be large, it should be borne in mind that 1946 operations will still be well above the record level of 1941. The adjustments in 1946 can be made with minimum difficulty if they are approached with understanding and intelligent cooperation by operators, state regulatory agencies, and the Interstate Oil Compact Commission. If freed from restrictive wartime regulations and given reasonably favorable conditions, the oil industry may be expected to overcome the transition problems and to continue its maximum contribution to the economic welfare and progress of the nation.

FIGURE 5

U. S. Natural Gasoline Production

(Thousand Barrels Daily)

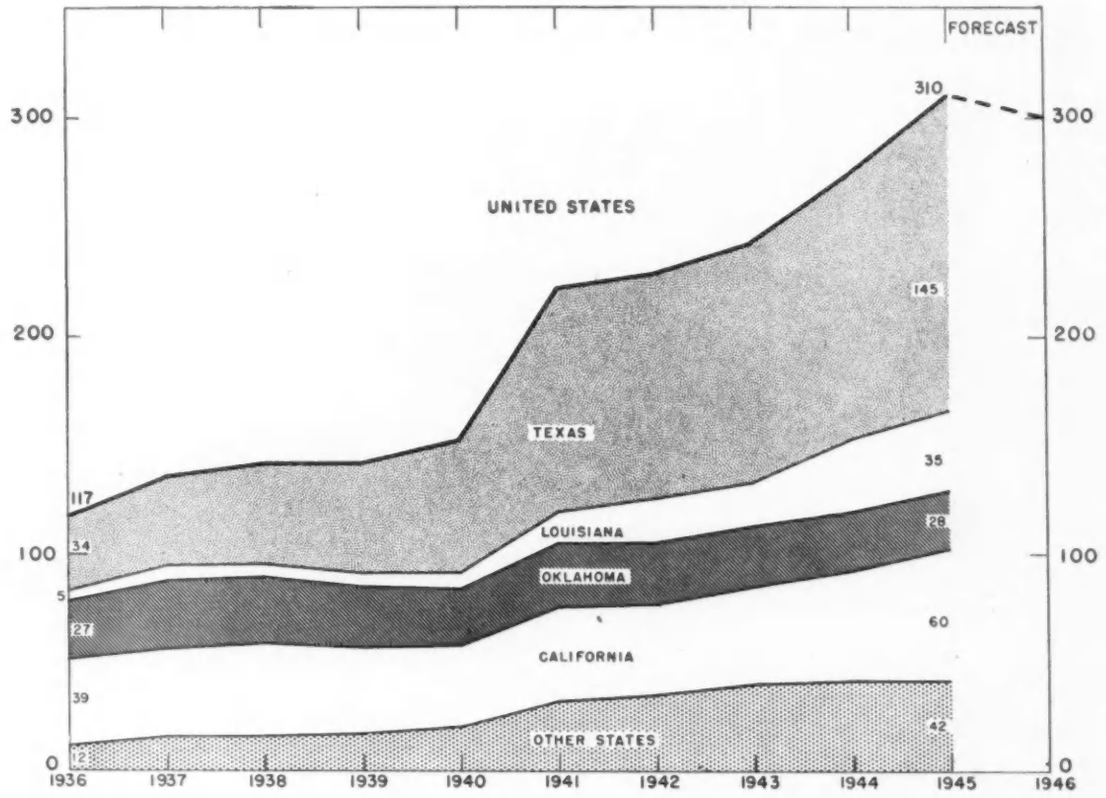
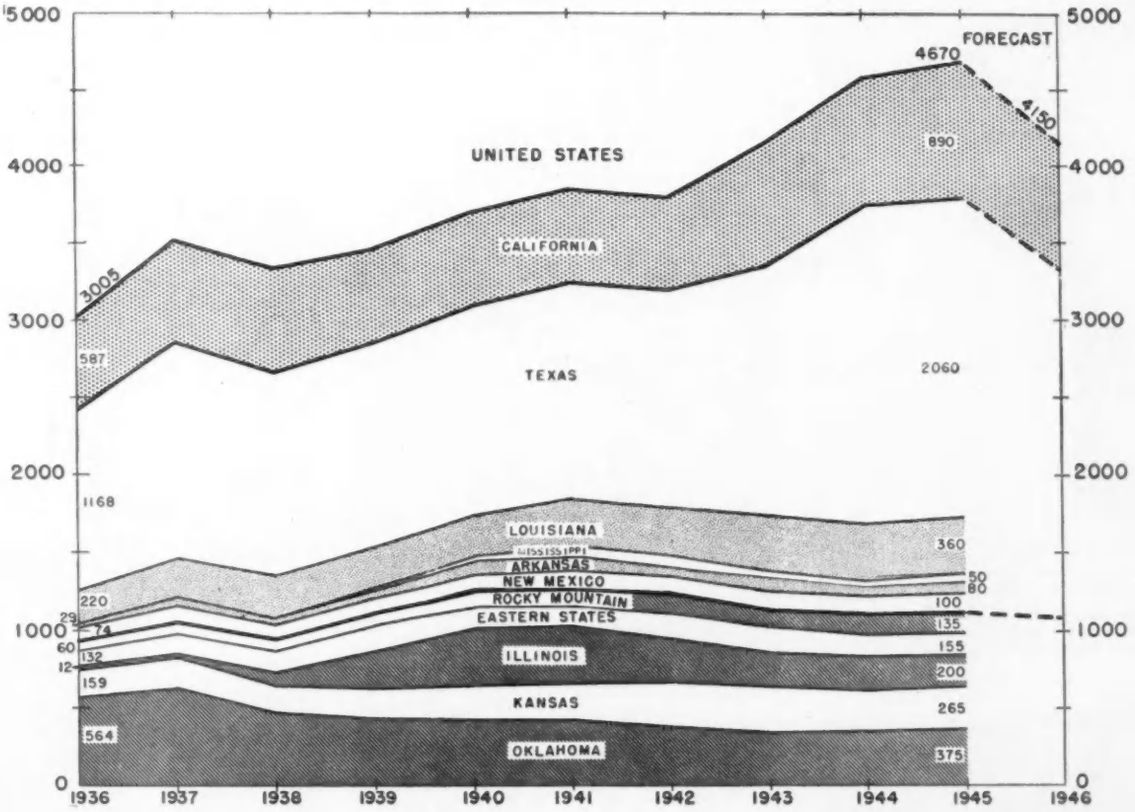


FIGURE 6

U. S. Crude Oil Production

(Thousand Barrels Daily)

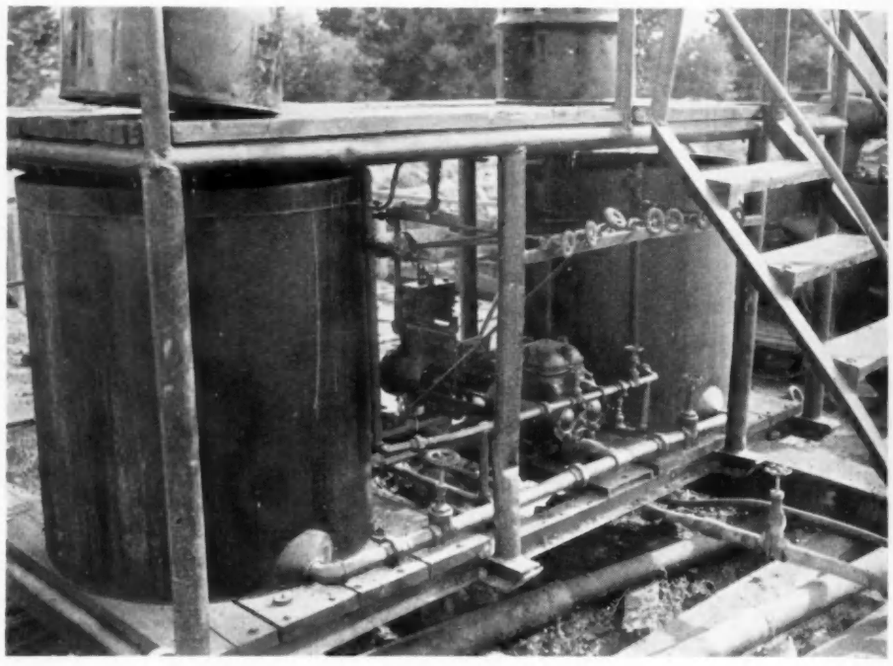


Compact, United Mounting of Pumps and Vats Speeds Mixing and Handling

MUD CONDITIONING

An unusually compact, easily operated chemical mixing unit is employed by the drilling department of one company. Skid-mounted, the rack contains two levels: (1), the lower containing two small open tanks, one at each end, and with pump and all necessary control fittings assembled between them, and (2), the upper platform on which drums and other small containers may be handled for mixing and feeding concentrated materials directly into the mixing-shipping tanks below. A demountable ladder leads to the upper platform which is wide enough to facilitate handling of bags of chemicals.

An exceptionally practical feature of the pumping system assembled on the lower deck is the compactness with which all control valves are grouped at one centralized position, extension handles and hand-wheels being provided for practically every valve that may be connected with the plant. Without moving from his position, the operator is able to govern water input, pump speed and capacity, as well as the numerous valves controlling the mixing of chemicals. The equipment is tied down firmly to withstand shocks of transporting, and tanks are bolted to the decking with floor lugs.



Prefabricated Derrick Leg Base Cuts Set-up Time

DERRICK SUPPORT

A recoverable drilling derrick leg base containing several improvements over those used by some operators consists of one which employs a square base of channel iron. Measuring 40 inches square outside, the 12-inch channel base is anchored with only four heavy studs in the concrete flooring, the unusually broad base providing a secure footing with no danger of lateral shifting. Four 4-foot legs of 4-inch drill pipe are welded to corners of the channel material and terminate at the top on a capping of ¾-inch steel plate, atop which rest the derrick sill members.

The light, compact bases are economical from the standpoint of being salvageable for re-use as well as from the considerable time and materials that are saved at each new location.

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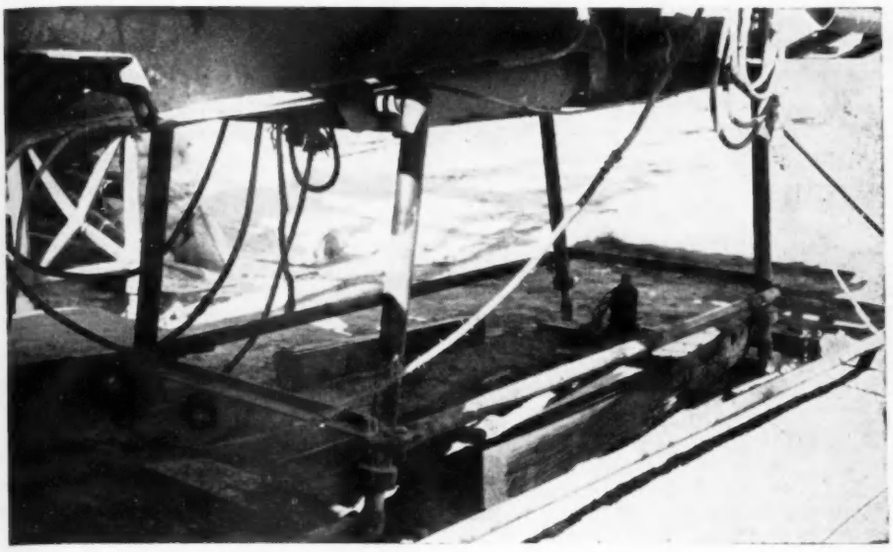
DRILLING HINTS

Adjustable Drilling Engine Base Speeds Set-up



ENGINE MOUNTING

A time-saving improvement incorporated in the substructure engine mounting of a slim-hole drilling rig consists of a four-legged base which can be adjusted to uneven terrain and which may be collapsed for easy transport when the rig is moved. Shown in the erect position, the two pairs of individually-swung pipe axles extend through the I-beam member of the engine mounting and are free-swinging, permitting each pair of legs to be spread out as an individual unit. Four horizontal stabilizer arms bolted to the legs give stability to the assembled unit. These arms have matched holes and pins in the ends which fit over similar holes in ears welded to the legs. A single bolt dropped through each matched pair of holes is all that is needed to tie the unit together. Coarse-threaded extensible fittings in the foot of each leg permit rapid adjustment of the legs to uneven bases or planking.

For the comparatively light weight of small rigs, this type of mounting has proven very practical as well as inexpensive to install and maintain. In moving the unit, it is necessary only to lift up the base, disconnect the horizontal arms, and swing the legs up into the engine base where they may be lashed temporarily until next set up.

Mirror Betters Cathead and Driller Team Work

CATHEAD OPERATION

With the aid of an extra-large mirror, the driller of one company supplies an added measure of safety for the man on the opposite side of the drawworks who operates the cathead. At the same time he better coordinates that operation with other activities at the rotary table. The mirror is hung on the wall immediately back of the cathead, three ropes being used to support it and adjust it to conditions of the wall. In general, it is pulled up close to the roof so the driller can see it by merely glancing over the top of the drawworks.

Using the ropes in the manner shown almost any angle or tilt of the mirror may be obtained, and it will remain in that position during all operations. Since installation of this mirror the driller has been able to effect time-saving practices during the long periods of running in and out of the hole where coordination between men and machinery is of utmost importance.

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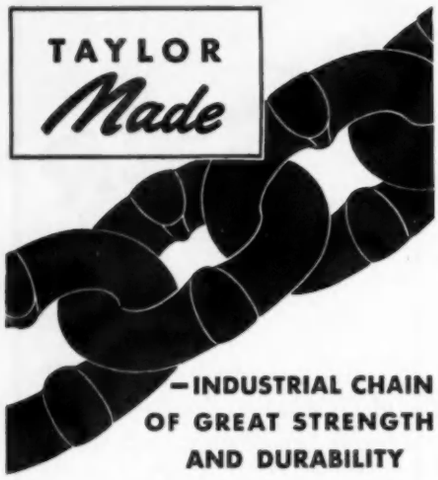

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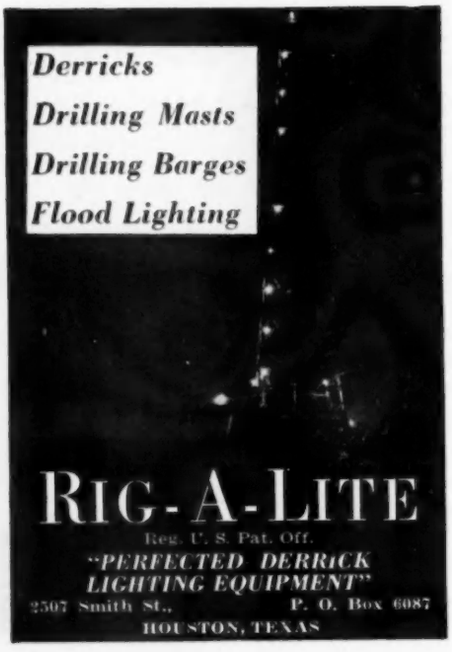
ON PAGE 63 OF THIS ISSUE



Jet Scrubber in Washer Protects Work Clothes

WORK CLOTHES

Differing from horizontal types of blow-out boxes, the installation used by the crew of one drilling company is simple in construction, easy to set up, and unusually thorough in cleaning dirty clothes. Instead of the horizontal type box, this consists of a 3-foot length of 14-inch casing set vertically on a tripod of 2-inch pipe legs. The top is fitted with a flat lid, hinged and supplied with a hasp. The bottom is cut off at a 45-degree angle and closed off with a steel plate as shown. Water and steam lines enter the box at the lowermost point, opposite the slanting back of the bottom section. Principal advantage of this type of design lies in the action of steam and water when it is turned into the box. Striking the back of the container, the fluid is directed almost straight up into the clothes, cleaning thoroughly with only a minimum of tumbling of clothes and consequent less wear due to abrasion along the sides of the interior. Steam and moisture escape through ports cut through the sides near the top of the device. Crews report that clothes are easier handled, quicker and more thoroughly cleaned and with less harmful effect on them.

The tripod on which the unit is mounted may have weighted feet welded on to snub possible strain on piping.

Claw Anchors Chain End of A-Frame Guy Lines

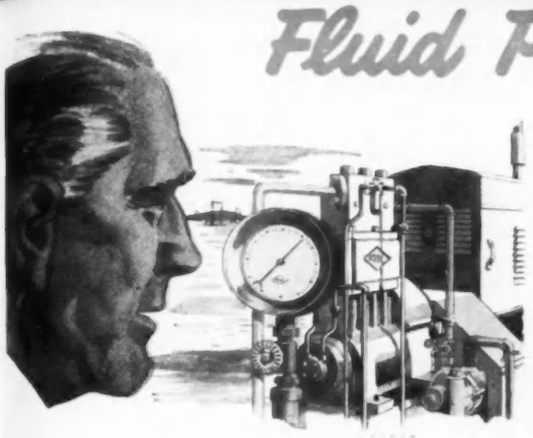
TRUCK GADGET

In adjusting the height of a light A-frame mounted on the bed of the rig builders' field truck, it often is necessary to shorten or lengthen the stay lines between crown and the truck bed to adapt the unit to changing work loads on the job. To provide a simple but safe means of quickly removing and securing the line, a novel hook device was installed at each of the two corners nearest the cab. Made of steel plate material and welded up in the company welding shop, the hooking device is similar to the claws of a carpenter's hammer, the two fingers being tapered in a V-slot as shown.

A length of light chain attached to the end of the cable stay wire provides a convenient means of closely adjusting the length, the links fitting tightly in the claw grip of the holding device, yet being easily removed when the lines are slacked off. Taking up no valuable truck bed space, and requiring no large holes in the bed, the device is easy to install on any truck, requiring only two light bolts to hold it in place. The small size makes it unnecessary to have it removed whenever the A-frame is removed and the truck used for other purposes.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

Fluid Power TELLS HIM...



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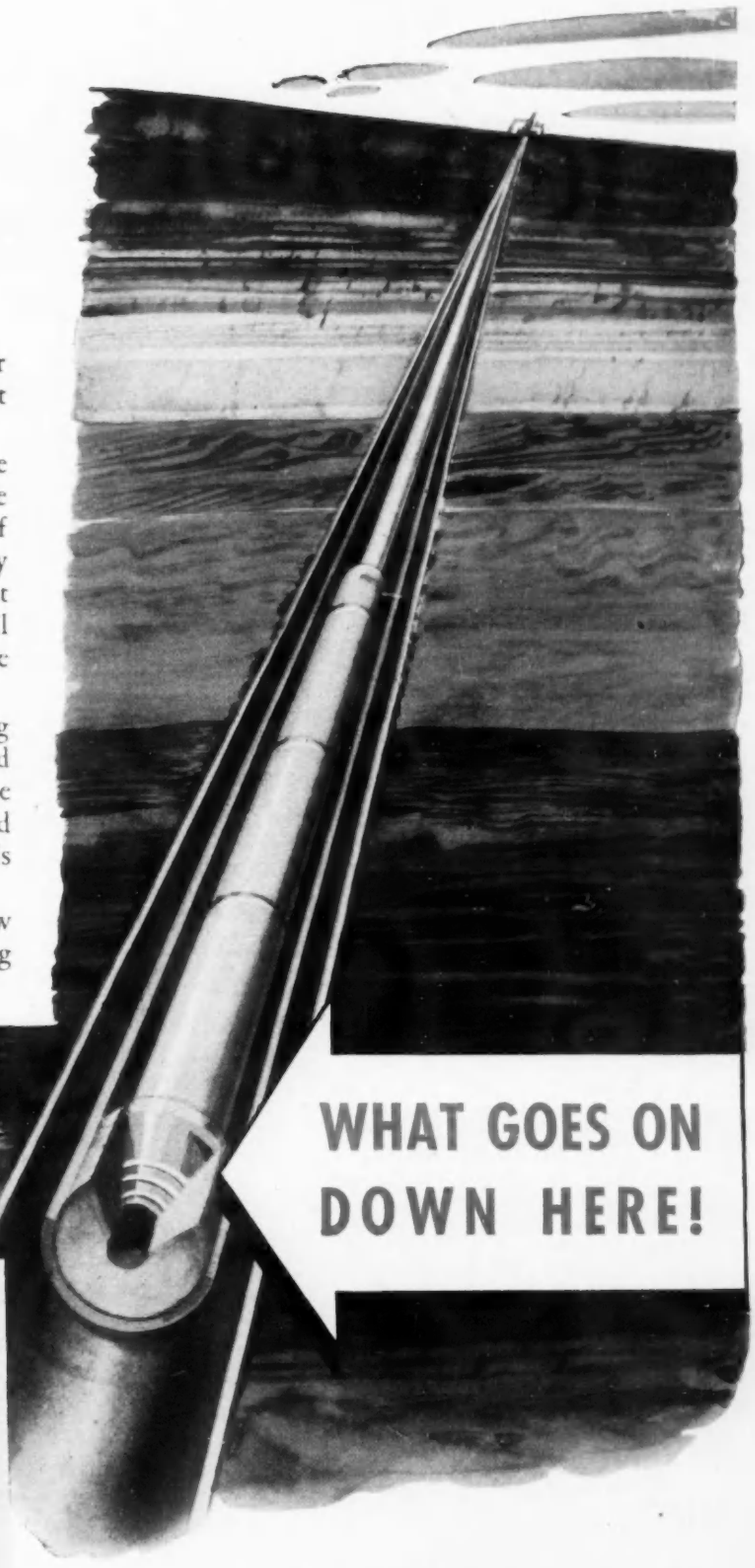

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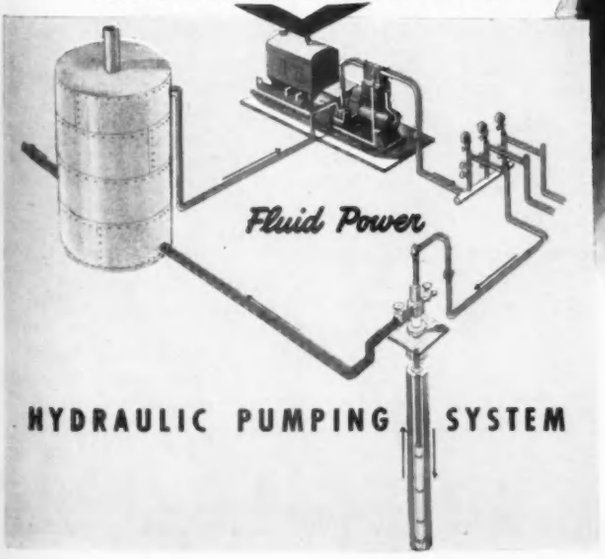

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Production and Refinery Runs Lower And Fuel Oil Stocks Cut Materially

Both production and refinery runs of crude oil were lower in the week ended December 22 than in the previous week, reports to the American Petroleum Institute showed. Plant output of distillate fuel oil decreased, but there were increases in production of gasoline and residual fuel oil. Stocks of gasoline continued to increase by normal seasonal volume. Distillate fuel oil came from storage in large amount to meet heavy seasonal demand, and residual fuel oil stocks also were reduced materially.

U. S. crude production averaged 4,480,000 barrels per day, down 35,000 from the week before and 249,000 barrels daily or 5.3 percent less than in the comparable week a year ago. Crude runs to stills averaged 4,511,000 barrels daily, down 51,000 from the previous week and 206,000 a day or 4.3 percent less than in the like week a year ago. Crude oil stocks in the country totaled 219,518,000 barrels on December 15, the Bureau of Mines reported. That amount was an increase of 1,163,000 barrels over a week previously but was 2,557,000 barrels or 1.1 percent less than the 222,075,000 barrels on hand a year earlier.

Production of gasoline, including natural blended at refineries, amounted to 14,768,000 barrels in the week ended December 22, up 124,000 from the previous week's output and 357,000 barrels or 2.5 percent more than was made in the like week a year ago. Stocks of finished and unfinished gasoline totaled 91,870,000 barrels on December 22, 1945, having increased 2,827,000 barrels within the week ended on that date. This new total was 8,263,000 barrels or 9.9 percent more than the 83,607,000 barrels held a year earlier.

Distillate fuel oil production of 4,708,000 barrels in the week ended December 22 was 197,000 less than in the previous week but 130,000 barrels or 2.8 percent more than the output in the like week a year ago. Stocks of distillate fuel were reduced during the week by 2,049,000 barrels, having come down to 38,919,000 barrels. That amount was 1,210,000 barrels or 3 percent less than the 40,129,000 barrels held a year previously.

Residual fuel oil production amounted to 8,539,000 barrels during the December 22 week. That was 432,000 barrels more than was turned out in the previous week but 715,000 barrels or 7.7 percent less than the output of 9,254,000 barrels in the corresponding week a year ago. Stocks of residual fuel were reduced by 1,483,000 barrels during the week and declined to 41,479,000 barrels. That quantity was 17,409,000 barrels or approximately 30 percent less than the 58,173,000 barrels held a year previously.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gasoil and Distillate Stocks		Residual Fuel Oil Stocks	
	Barrels Daily	Week Ended	Barrels Daily	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended
Highs:												
1941	4,337	11–22	4,120	10–18	266,187	3–29	99,727	3–29	[1]54,983	11–15	102,448	1–4
1942	4,337	2– 7	3,961	1– 3	263,208	3–28	[1]109,281	3–14	47,861	11–14	95,857	1–8
1943	4,436	11–13	4,331	12– 4	245,752	5–29	94,159	3–20	47,187	11–27	72,881	1–2
1944	4,762	9–30	4,798	12–30	240,992	1– 1	89,162	4– 1	48,162	10–28	64,744	10–7
1945	[1]4,944	7–14	[1]5,140	8–18	227,554	10–13	99,012	3–24	45,341	11–17	56,074	1–6
Lows:												
1939	[2]1,601	8–26	3,125	2–18	[2]229,127	10–12	71,152	10– 7	20,722	4–15	105,397	4– 3
1941	3,364	1–11	3,490	1–18	240,399	11–15	79,923	10– 4	28,382	4–12	90,914	7–13
1942	3,297	7– 4	3,393	5–23	231,896	12–12	75,934	12– 5	29,240	4–25	72,962	12–26
1943	3,821	1– 9	3,579	3–18	232,191	1– 9	68,182	10–16	30,732	4– 3	57,596	12–25
1944	4,357	1– 1	4,228	2–12	220,258	9– 9	76,302	1– 1	30,232	4–19	49,737	3–18
1945	3,621	10–6	3,409	10–6	[4]211,813	8–25	70,791	10–13	26,483	3–17	38,548	5–26

TRENDS OF 1944 AND 1945

Trends in Week Ended:	Crude Oil			Gasoline		Gasoil and Distillate		Residual Fuel	
	Production Daily	Runs to Stills Daily	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,380
January 29	4,400	4,359	240,251	13,427	81,075	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,018	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,342	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,985	64,382
December 2	4,712	4,693	221,591	14,853	80,427	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,430	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
December 30	4,705	4,798	222,998	15,342	86,614	4,257	39,495	9,156	57,430
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,561	9,252	51,119
February 24	4,777	4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 26	4,887	4,950	222,831	15,194	89,121	4,667	29,184	9,670	38,548
June 2	4,859	4,804	224,079	15,317	88,696	4,857	29,819	9,437	39,022
June 9	4,853	4,827	221,552	15,256	78,896	4,842	30,339	9,382	38,996
June 16	4,888	4,915	221,932	15,132	87,504	5,342	30,397	9,252	39,482
June 23	4,898	5,002	220,974	15,367	87,462	5,014	31,761	9,558	39,893
June 30	4,903	4,999	220,781	15,546	86,472	4,910	32,213	9,077	40,488
July 7	4,886	5,006	217,250	15,082	86,329	4,875	33,667	9,238	40,754
July 14	[1]4,944	4,945	216,355	15,349	85,401	5,197	34,804	9,337	41,489
July 21	4,944	4,927	218,108	15,430	85,930	5,090	35,458	9,071	42,480
July 28	4,930	4,996	218,507	16,106	86,008	4,598	36,071	9,586	42,283
August 25	4,892	4,931	[4]211,813	15,986	84,693	4,960	39,782	9,356	46,201
September 29	4,357	3,812	222,387	11,913	79,552	3,940	43,689	7,047	46,853
October 27	4,273	4,838	224,230	15,530	74,335	5,159	43,472	8,691	45,943
December 8	4,459	4,473	218,355	14,908	87,004	4,669	42,406	8,545	44,743
December 15	4,515	4,562	219,518	14,644	89,043	4,905	40,968	8,107	42,962
Dec. 22, 1945	4,480	4,511	.....	14,768	91,870	4,708	38,919	8,539	41,479
Dec. 23, 1944	4,729	4,717	[3]222,075	14,411	83,607	4,578	40,129	9,254	58,173
Change.									
In week	—35	—51	+1,163	+124	+2,827	—197	—2,049	+432	—1,483
In year	—249	—206	—2,557	+357	+8,263	+130	—1,210	—715	—17,409
In year	—5.3%	—4.3%	—1.1%	+2.5%	+9.9%	+2.8%	—3.0%	—7.7%	—29.9%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, December 16, 1944.

Sessions, Caminita Open Public Relations Office

Gordon M. Sessions, first chief of the public relations bureau of PAW and later aide to Secretary Ickes in Petroleum Reserves Corporation and a member of the group accompanying the secretary to London for the negotiation of the Anglo-American petroleum agreement, and Ludwig Caminita, last chief of the PAW publicity bureau, will open their own offices in Washington January 2 as public relations consultants.

Sessions and Caminita have been retained as industry consultants to work with Dr. John Frey, special assistant to Deputy Administrator Davies, on the preparation of a history of PAW. Funds for the employment of personnel to assist in this work were appropriated by the PIWC.

FPC Sets Oral Arguments On Gas Line Application

The Federal Power Commission has ordered oral argument, to be held January 5, in lieu of the filing of reply briefs on the issues involved in applications by the Northern Natural Gas Company for authority to construct facilities to meet winter requirements in Iowa, Kansas and Nebraska.

The company has asked for authority to construct several sections of loop line at a cost of approximately $1,400,000, and by short-cutting the normal procedure the commission hopes to dispose of the matter quickly so that no time may be lost in providing the necessary facilities.

The commission also has set a January 7 hearing at which Panhandle Eastern Pipe Line Company will be required to show that the proposed sale of natural gas to the Ford Motor Company at Dearborn, Mich., will not impair its ability to provide adequate service to present consumers or violate orders of the commission authorizing the construction and limiting the operation of certain facilities.

Mid-Continent Constructs Loop On Oklahoma City Line

The Mid-Continent Pipe Line Company is constructing approximately eight miles of six-inch pipe line as a loop in its discharge line from its Harris station in the Moore area of Cleveland County, Okla., to Oklahoma City. Contract was awarded to Holland Construction Company of Tulsa, and work is in progress. The line is to be completed by January 1.

This line was necessitated by increased development in the South and West Moore pools where approximately 15 wells are now drilling. With this addition, Mid-Continent will be able to handle about 18,000 barrels daily from those pools. Additional storage facilities and pumps are also being installed at the Harris station.

Approval of California Gas Line Project Is Expected

The California Railroad Commission has concluded hearings on the application by Southern California Gas Company and Southern Counties Gas Company to build a 26-inch gas line from Santa Fe Springs to Blythe, where it will connect with a line planned from West Texas by El Paso Natural Gas Company. Since no opposition to the project was expressed it is considered likely that the Commission will act affirmatively in January.

In a closing argument for the pipe line, F. S. Wade, president of both Southern Counties Gas and Southern California Gas, testified that all available natural gas sources in California have been surveyed and the company's engineers have determined that the supply is sufficient to meet future needs. Wade said "we would be negligent in our duties to customers, employes and stockholders if we did not look far ahead for future supply."

Gas company engineers testified that Southern California will face a critical period in its natural gas supply between 1946 and 1956 unless there is an added supply from outside the state.

Interstate Oil Pipe Line Acquires Yale Firm Stock

Interstate Oil Pipe Line Company has acquired Yale Oil Pipe Lines, Inc., from the Leader Oil Company.

Announcement of the purchase was made by Loren F. Kahle, Interstate president, and O. C. Schorp, president of The Carter Oil Company, who also heads the Yale and Leader corporations.

Yale will be merged with Interstate on January 1, and its operations will become a part of the company's Northern division, managed by Bruce Ramsey, vice president.

Yale, organized in March, 1944, operates a pipe line system connecting the Elk Basin area in southern Montana and northern Wyoming with Carter's refinery at Billings, Mont., and the refinery of the Farmers Union Central Exchange at Laurel, Mont., It comprises about 51 miles of eight-inch and 29 miles of six-inch line.

Loren F. Kahle Named Head Of Interstate Oil Pipe Line

Loren F. Kahle was elected president of Interstate Oil Pipe Line Company December 20. Kahle has served as executive vice president of the company since its reorganization a year ago, and succeeds W. R. Finney of New York, who remains a director of Interstate and is pipe line advisor to the parent company, Standard Oil Company (New Jersey).

Other officers reelected by the board were S. W. Day, Shreveport, La., vice president in charge of the Southern division; Bruce Ramsey, vice president supervising Northern division activities; P. H. Hunter, secretary; H. P. Hellinghausen, treasurer; and J. W. Cason, comptroller, all of Tulsa.

Shell To Begin Work on Natural Gasoline Plant

Shell Oil Company and associates will start work shortly on a previously announced 30 million cubic foot daily capacity absorption natural gasoline plant to operate on sweet gas produced from Devonian and Ellenburger wells in the TXL field, Ector County sector of West Texas. The plant is to be located near center of N½ of N½ T&P Ry. 17, Block 45, T-1-N, or approximate center of the field. Negotiations have been under way to sell the residue gas to the El Paso Natural Gas Company, which would extend a line from the Keystone-Ellenburger field, or its Jal, N. M., booster station.

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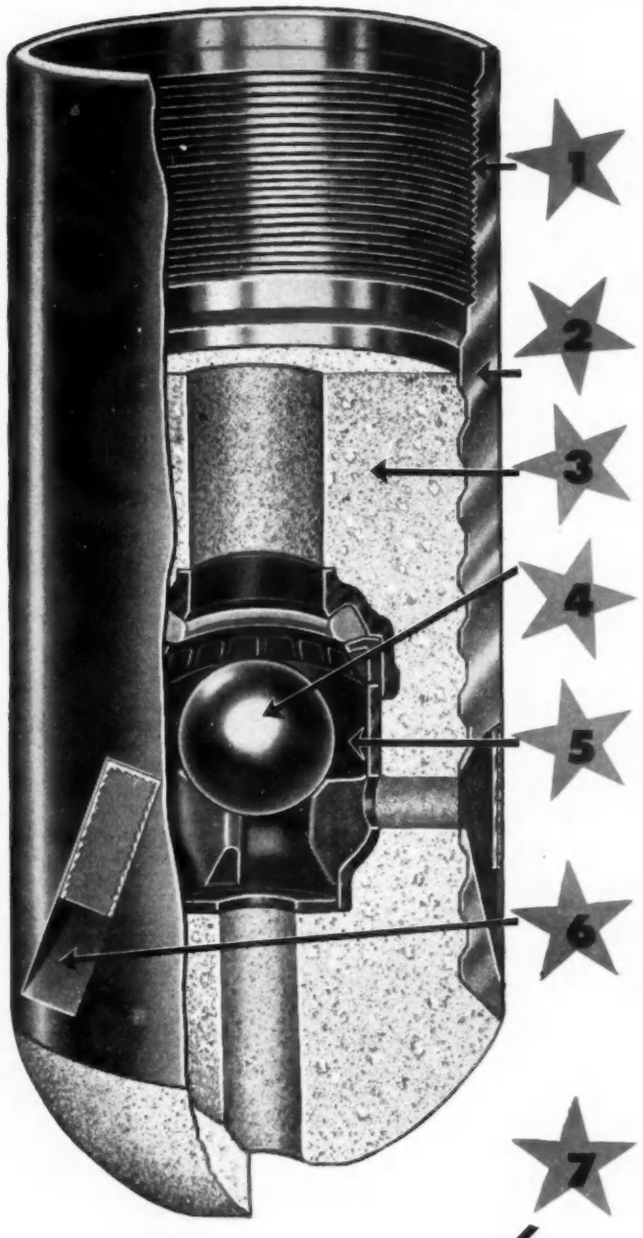

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This is a BAKER Cement Float Collar

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Positioned one or two joints from bottom, it serves as a float valve; also as a stop for the cementing plug, thus retaining cement tailings inside the casing. It is run with a regular Guide Shoe, or a Whirler Guide Shoe in wells of average depth. In deeper wells it is good practice to use this Baker Float Collar with a Baker Cement Wash-Down Whirler Float Shoe, opposite page.

This is a BAKER Cement Guide Casing Shoe

Product No. 102

Generally used with a Baker Cement Float Collar, in wells of average depth, this Shoe is amply strong to guide the longest string of casing safely to bottom. The rounded nose readily passes any side wall irregularities. The plug of Baker-Formula Concrete is easily drilled up and circulated out of the hole.

This is a BAKER Cement Wash-Down Whirler Guide Shoe

Product No. 121

Where bridges, or other formation obstructions are likely to be encountered, this Guide Shoe is used in combination with a Baker Cement Float Collar (above). The Wash-Down Whirler Guide Shoe then safely guides the casing past any wall irregularities, washing the side walls, breaking down bridges, and preparing the hole for a good cement job. When cementing is commenced the Guide Shoe whirls the slurry to uniformly encase the pipe.

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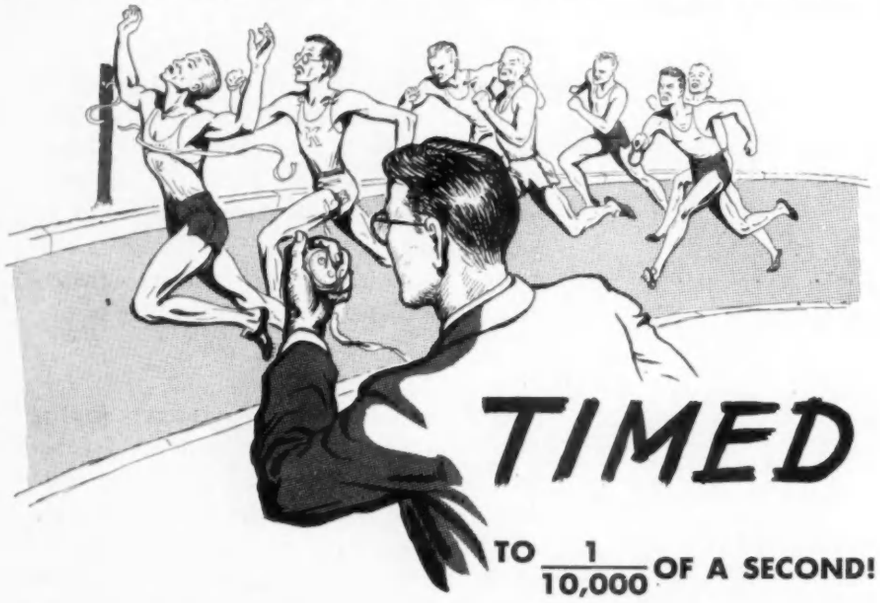
Tropical Makes Agreement With Workers in Colombia

Threats of oil work stoppage in Colombia have been averted as concerns the Tropical Oil Company, the country's largest producer.

According to advices from Bogota last week, the company has negotiated a new contract with the labor federation which is apparently a compromise. Still pending are the contracts between Shell and Richmond Petroleum Company interests. Under the new contract, which will run until 1948, the union agrees to withdraw demands for the right to make recommendations for replacements for vacancies, and makes other concessions, while the company has agreed to a wage increase, rental allowances, company mess service, educational grants, and round table discussions by labor and management on working conditions.

The labor difficulty is not confined directly to oil workers, but the oil industry is being directly affected by a strike now in progress involving river and harbor unions. The harbor workers' strike is making is impossible to maintain a schedule of unloading boats at the Barranquilla on the Magdalena River, and it is understood that most consulates are not issuing clearance papers to boats bound for that port. The government is taking a firm stand in this strike, and has suspended the charter of the Federation of River and Harbor Unions. The Magdalena River is the lifeline for most of the heavy material being used in the oil fields. .



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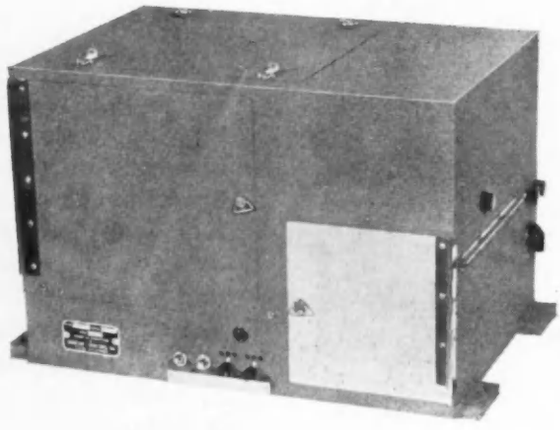

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Costa Rica Drafting New Law on Oil Concessions

A new basic law on oil concessions is being drafted by the Costa Rican government. The present Costa Rican law in the matter of oil concessions is not fully modern or comprehensive.

Copies of legislation from various other countries have been obtained to use as models and reports indicate the draft project of law will be ready for Congress during the first six months of 1946.

Reports say the new law would open concessions to competitive bidding and would restrict exploitation areas so there would be more than one division of land up for auction.

Leading oil companies have shown some interest in Costa Rican oil possibilities during the past few months, but are waiting until the new law is enacted before taking positive steps toward obtaining concessions.

Mene Grande's Santa Rosa Wild Well Is Still Burning

Mene Grande Oil Company's R. G. 6, wild well in the Santa Rosa area of east central Venezuela, was still burning after workmen made an unsuccessful attempt to extinguish the flames with explosives. A charge of 250 pounds of 80 percent gelatine was shot over the hole without putting the fire out, and preparations were being made to set a new charge for another attempt with 500 pounds.

Mene Grande's Nipa 1, which recently tested several hundred barrels of oil daily, is still testing after showing salt water during the latter part of the production test.

Socony-Vacuum Oil Company's Tascabana 1, wildcat northwest of the Oficina area in the state of Anzoategui, was still conducting a series of tests, one of which recently showed the well capable of making about 3 million cubic feet of gas daily.

Glen Ruby to China

Glen Ruby, internationally known geologist, is in the United States preparatory to leaving for China where his firm, United Exploration Company, will do some work for the Chinese government.

☆ Oklahoma

Cimarron County Is Given Second Producer By Pure

Cimarron County gets second producer; Carter tests salt water in deep Washington pool well; Seminole County wildcat blows out; Skelly gets new pool southeast of Alma.

Cimarron County: The second oil producer on the big Keyes structure in an area west of the Hugoton gas pool is nearing completion. Its success is focusing attention in the sector where an extensive leasing campaign is in progress. Newest producer is The Pure Oil Company's Johnson 1, SW SW SE 12-5n-7ecm, 1 mile south of Pure's Oklahoma State 1. The well was reported swabbing about 10 barrels of oil an hour from the Cherokee sand topped at 4855 feet. The test was drilled to 5010 feet and plugged back to 4885 feet with 7-inch pipe set at 4852 feet and saturation logged in the Cherokee sand.

McClain County: The Carter Oil Company reported salt water in Autry 1, CSE SW 34-6n-3w, south of the 2 deep Carter wells in the Washington pool. Latest test of the Bromide sand was at 10,575-647 feet where operator recovered some gas and 25 stands of oil and water. The water level was found at 10,667 feet and the hole plugged back to 10,647 feet where it apparently failed to get a water shut off. Before the water level was established the well tested 300 barrels of oil in 8 hours at 10,570-641 feet. On the west side of the pool the Vierson 1, CSE NE 8-7n-3w, tested at 10,659-681 for no shows.

Beckham County: Failure was reported at Pure's Hudgins 1-A, NE NW NW, 26-9n-26w, deep test west of Erick. The well was dry and abandoned at 9015 feet, total depth. It logged the Dolomite at 3503 feet with oil staining at 3812-90 feet, and the Granite Wash at 4210 feet. A drill-stem test at 5768-5962 feet recovered salt water.

Stephens County: Skelly Oil Company apparently has a pool opener at Chilton-Mayo Unit 1, CNW SE 14-2s-4w, about 3½ miles southeast of Alma. The wildcat was drilled to 7177 feet and encountered considerable rig trouble. Various zones were tested but a final production test was made in a Pennsylvanian sand between 2915-40 feet where the well tested approximately 90 barrels of 36-gravity oil on the pump in 19 hours. An oil and gas show in the Hunton at 4860-87 feet was non-commercial.

Logan County: Three miles east of the Lovell area Phillips Petroleum Company's Mize 1, CSE SE 25-18n-4w, which opened a new pool last month, tested more than 500 barrels of oil in 11 hours flowing through casing. Production is in the Layton logged at 4786-97 feet. Testing continues through various-sized chokes. The discovery is about ½-mile north of the nearest production and may be pointing to a north or northeast trend.

Seminole County: Heavy gas blew out the tools at Globe Oil and Refining Company's Norvell 1, NE SW SW 20-7n-7e, wildcat 3 miles east of the Little River pool, and a spark ignited the flow, estimated at 10 million cubic feet a day, resulting in a fire which took heavy toll of equipment. A sand in the Pennsylvanian series which might be the Senora was reported at 2300-40 feet and heavy pressure developed before the crew could take necessary measures. No oil was reported with the gas.

Pottawatomie County: Stout & Stuart's Bowles 1, NW NE NE 4-5n-3e, pool opener 3 miles south of Wanette, has been completed as a 30-barrel daily pumper from the Layton sand between 2885 and 2892 feet, total depth. The sand was reported tight although fairly well saturated.

To Continue Benefits

Socony-Vacuum Oil Company's military plan, under which 5326 employes in the armed forces have received more than $4½ million, will be continued in 1946. Full salary will be paid drafted or enlisted employes on leave during the first two months they are in service.

☆ Kansas

Cowley Wildcat Swabs Oil; Rooks Test Has Good Show

Cowley County wildcat swabs 2½ barrels of oil an hour; test near Westhusin pool has oil show in Lansing; Coralena completes small pumper in new area; Hugoton pool adds three gassers; another good producer looms for west extension of Halstead.

Cowley County: With only 2 feet of saturated Mississippi lime exposed, W. L. Harman et al's Smith 1, SE SE SW 15-33s-3e, prospective pool opener nearly a mile east of the Rainbow Bend pool was swabbing at the rate of 2½ barrels of clean oil an hour as operators were preparing for final potential test. The well was drilled to 4256 feet in the Arbuckle. Production is from 3259-61 feet and the well is expected to improve after acidizing.

Rooks County: A good oil show was reported at The Atlantic Refining Com-

Wells Completed in United States in Week Ended December 29, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS This Week	Last Week	Cumulative This Year	Cumulative Last Year
Alabama	1	....	....	....	1	....	....	....	1	1	2	....	38	38
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	....	6
Arkansas	3	1	....	....	4	....	....	....	1	1	5	11	200	233
California	26	....	....	3	29	....	....	....	5	5	34	27	2,090	2,043
Colorado	....	....	....	....	....	....	....	....	....	....	....	3	53	30
Florida	....	....	....	....	....	....	....	....	....	....	....	....	15	7
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	6	8
Illinois	....	....	....	....	....	....	....	....	....	....	....	61	1,849	2,066
Indiana	....	....	....	....	....	....	....	....	....	....	....	22	329	335
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Kansas	17	6	1	11	35	....	1	1	3	5	40	80	1,789	1,725
Kentucky	....	....	....	....	....	....	....	....	....	....	....	51	647	826
Louisiana	13	3	....	5	21	....	1	....	4	5	26	25	1,080	778
North Louisiana	6	1	....	3	10	....	....	....	3	3	13	16	459	286
South Louisiana	7	2	....	2	11	....	1	....	1	2	13	9	621	492
Michigan	....	....	....	....	....	....	....	....	....	....	....	13	759	688
Mississippi	2	....	....	....	2	....	1	....	2	3	5	3	369	213
Missouri	....	....	....	....	....	....	....	....	....	....	....	....	48	61
Montana	2	....	....	1	3	1	....	....	....	....	4	....	234	335
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	5	18
New Mexico	5	....	....	....	5	....	....	....	....	....	5	12	417	422
New York	15	....	10	....	25	....	....	....	....	....	25	25	1,154	1,249
North Carolina	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Ohio	5	3	....	8	16	....	....	....	....	....	16	14	996	1,024
Oklahoma	30	7	....	12	49	1	1	....	5	6	56	44	2,353	1,891
Pennsylvania	28	1	15	....	44	1	....	....	....	....	45	52	2,901	3,060
South Dakota	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	4	9
Texas	142	15	....	43	200	3	6	1	21	28	231	185	7,473	6,235
E.Tex.Bor. Co.'s	....	6	....	1	7	....	....	....	....	....	7	3	129	35
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Rest of E. Texas	13	....	....	2	15	....	....	....	3	3	18	12	270	280
North Texas	51	....	....	24	75	....	....	....	2	2	77	53	1,894	1,415
W. Central Tex.	3	1	....	3	7	....	1	1	2	4	11	22	480	419
West Texas	49	2	....	5	56	3	3	....	5	8	67	38	1,755	1,648
Tex. Panhandle	2	4	....	1	7	....	....	....	....	....	7	6	588	332
G. Coast, Upper	6	....	....	1	7	....	1	....	4	5	12	22	713	612
G. Coast, Lower	18	1	....	3	22	....	1	....	2	3	25	15	1,074	927
Southwest Texas	....	1	....	2	3	....	....	....	2	2	5	13	475	458
S. Central Tex.	....	....	....	1	1	....	....	....	1	1	2	1	95	105
Utah	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Washington	....	....	....	....	....	....	....	....	....	....	....	....	1	....
West Virginia	....	8	....	3	11	....	....	....	....	....	11	20	802	975
Wyoming	....	....	....	....	....	....	....	....	....	....	....	4	193	177
Total U. S.	289	44	26	86	445	6	10	2	42	54	505	652	25,808	24,455

* Includes distillate wells. † Includes salt water disposal wells.

pany's Carmichael 1, CSE NE 16-9s-17w, wildcat 2 miles west of the Westhusin pool. Crews were rigging for potential test with the oil show reported at 3210-3220 feet. A producer will stimulate activity in this northwestern area of the Kansas Uplift where little development has taken place this year.

Russell County: Coralena Oil Company's Olson 1, SE SE 23-13s-15w, which opened a new Kansas City lime field 1½ miles north of the Gorham pool, tested about 30 barrels of oil per day on the pump plus about 15 barrels of salt water. The well was drilled to 3336 feet in the Arbuckle and pipe was perforated at various intervals with production reported from 3249-78 feet. The wildcat had non-commercial oil showing in the Arbuckle.

Harvey County: Harber Drilling Company is giving the west extension of the Halstead pool another commercial producer at Drake 1, SW SE NW 14-23s-2w. The test was reported making more than 2 barrels of oil an hour from the Mississippi lime at 2939-49 feet as operator was preparing to acidize.

Haskell County: Three more gassers were added to the Haskell County sector of the Hugoton gas pool for an estimated open flow capacity of 60½ million cubic feet daily. Cities Service Oil Company et al's Eubank 1-C, NW NW SE 7-28s-34w, completed for more than 15 million cubic feet of gas at 2840 feet; Cities Service et al's Home Royalty 1, SE SE NW 15-28s-34w, completed for 12,650,000 feet of gas daily at 2855 feet; Kansas City Natural Gas Company et al's Weber 1, NW NW SE 21-24s-35w, completed for 32,820,000 feet of gas daily at 2674 feet.

☆West Texas

Dawson County Test Shows For San Andres Producer

Dawson County wildcat showing for producer from the San Andres; Ector County has promise of an Ellenburger discovery; wildcat near deep failure in Western Andrews County is structurally high; second producer is assured for Dollar Hide pool.

Dawson County: Seaboard Oil Company's Lee 1, C NE NE T&P Ry. 47, Block 34, T-5-N, mile south of its Sprayberry 1, a 7679-foot failure that almost made a pumper from the Lower Clear Fork, was preparing to drill plugs from 7⅝-inch pipe at 3673 feet, with the hole bottomed at 3775 feet. A commercial pumper is anticipated from broken saturation at 3737-75 feet in San Andres, topped at 3500 feet, or 21 feet high.

Upton County: Gulf Oil Corporation's Farley 1, east offset to the company's deep prospect, and a mile north of the northwest sector of the McCamey field, pumped 143 barrels of 33.7-gravity oil and 2 barrels of water initial after using 2000 gallons of acid in broken pay at 2290-2358 feet. This completion perpetuates lease on 640-acre site. The company's Starnes 1-E, deep test, was drilling chert at 7541 feet, with nominal shows in drill-stem recoveries at 7355-98 and 7406-95 feet in Devonian, topped at 6840 feet.

Ector County: The Texas Company's Connell 29, C NE NW PSL 9, Block B-16, 1½ miles west of the Penwell field, entered the Ellenburger at 9525 feet with elevation of 2877 feet, and recovered slightly oil and gas-cut mud when tester was used at 9513-9610 feet, possibly warranting the setting of casing. A later core at 9610-26 feet yielded 1½ feet of dolomite with good gas odor and spotted oil stains. It will core ahead before making another drill-stem test. This is the first deep test for the general area.

Cities Service Oil Company's Parker-Wentz 1, ¾-mile southwest of westerly production in the Harper field, entered the Pre-Permian detrital at 8315 feet, with elevation of 3117 feet, and was drilling at 8440 feet.

TXL Field: The Texas Company's Thomas 1, ½-mile east of the TXL field's Ellenburger discovery and the ninth producer for this horizon, recorded a potential of 1987 barrels of 44-gravity oil, with gas-oil ratio of 1292/1, based on 4-hour natural test through ½-inch choke from 326 feet of open hole drilled to 9811 feet. The Ellenburger was entered at 9480 feet, with elevation 3326 feet, being the highest structural position recorded. Thomas 1 was completed in 6 months and 12 days, and passed up rated flow of 66 barrels of 35.3-gravity oil hourly through drill-pipe from the Silurian at 8330-8440 feet, while possible production was indicated in the McKee (Simpson) sand, topped at 9009 feet. The field has 39 producers in the Devonian, which is confined to the southwest flank of the Ellenburger high. Development has subsided in recent weeks, and current operations consist of 28 wells drilling or in process of completion; a rig and derrick each, and 4 locations. A substantial volume of required offsets will be drilled early next year.

Goldsmith Field: Stanolind et al's Scharbauer 3-Q, north edge of the field and a failure in Ellenburger at 8926-9155 feet, swabbed 11½ barrels of oil on 5-hour test from Silurian open hole at 7950-8144 feet after nitro shot. The company's Williamson 1, northwest edge of the North Goldsmith field, was drilling lime at 8936 feet, having entered the Devonian at 8045 feet and Silurian at 8555 feet.

Irion County: John I. Moore et al's Murphey 1, 8½ miles southwest of the Mertzon shallow area, was making production test through 5½-inch pipe at 8345 feet with the hole bottomed at 8389 feet in Ellenburger, topped at 7965 feet. This wildcat recovered oil and gas-cut mud and headed oil when tester was used at 7984-8063 feet, but 3 tests at lower levels proved dry.

Andrews County: Magnolia's Cowden 1-A, C NE SW PSL 7, Block A-55, and ¼-mile west of its Dollar Hide pool discovery, flowed oil through tester in chert at 7935-89 feet and at 7975-8028 feet in Devonian, cemented on bottom at 8028 feet to complete through perforations. This area is due for considerable development owing to numerous October, 1946, lease expirations, while Magnolia is starting Cowden 1-B, C SW SW PSL 3, Block A-55, a northeast outpost that will explore the Ellenburger.

Mid-Continent Petroleum Corporation's University 3-11, south offset to its Fulerton-Devonian field discovery and an indicated Ellenburger strike from a comparatively thin section of dolomite, tested sulphur water at 10,650-96 feet. The Ellenburger was entered at 10,596 feet, or 772 feet low to the recent discovery from the same horizon near apex of the Fullerton structure, and initial drill-stem test at 10,596-10,649 feet resulted in oil flow when pulling drill-pipe, while the recovery included 4590 feet of 35-gravity oil without water. In view of the low structural position and thin pay zone, Ellenburger development in this area will be secondary to the Devonian. University 3-11 has been plugged back to complete through perforations.

Shell Oil Company's Nelson 1, C NE SE PSL 8, Block A-40, 1¼ miles east by north of Humble Oil & Refining Company's Scarborough 1, a 10,929-foot failure in granite, entered the Glorietta at 5350 feet, or 178 feet high, and is drilling dry lime below 6960 feet. DeKalb Agricultural Association's Jones-Humble 1, 1½ miles west by south of the deep failure, is drilling lime below 4905 feet. Cash bonus of $100 per acre has been paid for acreage northeast of Shell's prospect.

Lubbock County: Bob F. Windfohr and associates have contracted to drill a 6500-foot Clear Fork test in HE&WT Ry. 30, Block 20, a mile east of Slide. Five owners of short-term leases contributed $28,000 in dry-hole money.

Tests Continue in Shell Well in Eastern Ecuador

Late reports from Ecuador show Shell Oil Company still testing in Vuano 1, on the eastern flank of the Andes. This well aroused considerable interest during recent tests in the Lower Cretaceous formation at around 5000 feet, when it was said to be showing considerable oil. But additional tests proved unsuccessful, and operators are reported coming back up the hole for tests in limestone in the Upper Cretaceous where showings had been noted.

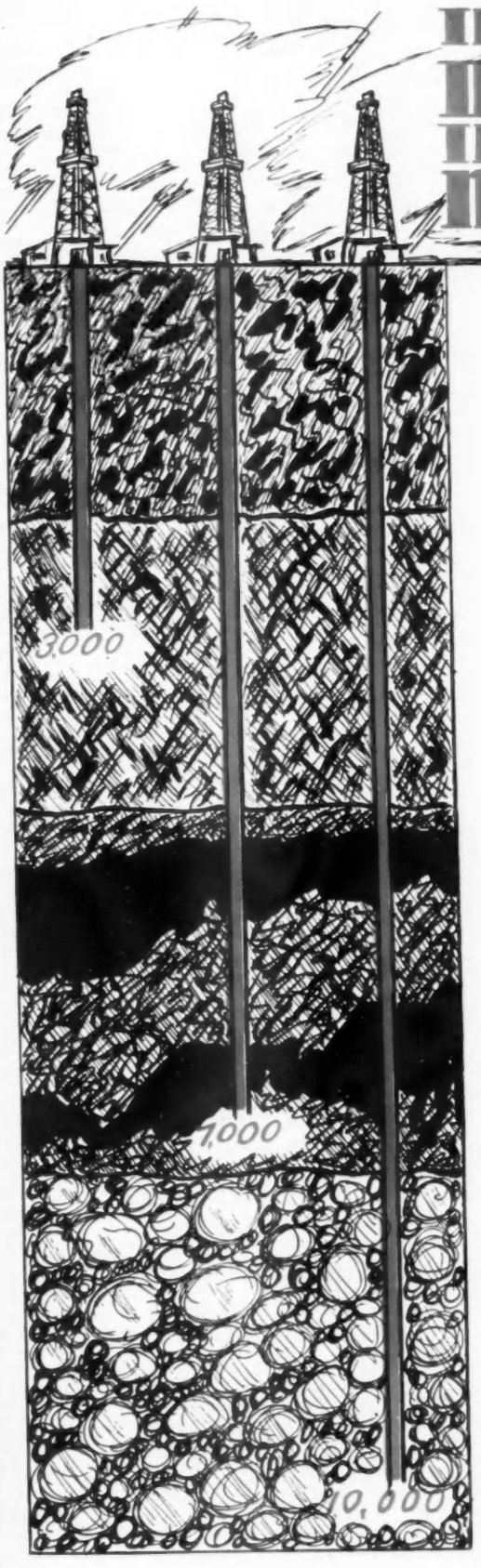
The test is being drilled on a portion of the Shell Group's holdings which amount to roughly 8.5 million—not 25 million as previously stated—hectares in Ecuador.

Gas Measurement Course Set for April in Norman

The Southwestern Gas Measurement Short Course will be held April 23, 24, and 25, 1946, at the University of Oklahoma, Norman, Oklahoma.

Committee chairmen elected by the general committee at its recent Dallas meeting were as follows: Program committee, R. M. Scofield, Lone Star Gas Company, Dallas; publications committee, C. E. Terrell, Southern Natural Gas Company, Birmingham; exhibits committee, J. L. Griffin, Northern Natural Gas Company, Omaha; registration and publicity committee, Miss Kate A. Niblack, Oklahoma Utilities Association, Oklahoma City; local arrangements committee, W. H. Carson, Norman. W. H. Woods, Gulf Oil Corporation, Houston, will continue as chairman of the practical methods committee for another year.

The membership of industrial representatives on the general committee was increased from ten to twelve. Nine geographical areas were designated, there being a member of the committee a representative from each of the nine areas; the three remaining persons to be members-at-large.



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☆ North Texas

New Strawn Oil Zone Found Southwest of Wilson Pool

New Strawn oil zone found on southwest side of the Wilson pool, Cooke County; Ellenburger discovery in Clay County boosts flow after acid.

Cooke County: James L. Anderson et al's Mooney 1, northeast corner of 150½-acre tract, A. C. C. Bailey survey and ½-mile southwest of 2300-foot production in the Wilson pool, pumped 117 barrels of oil on 12-hour preliminary test from sand at 3933 feet, giving the area a deeper zone. Seitz-Comegys and Seitz, Inc.'s Mooney-Magnolia 1, ⅜-mile northwest of the Wilson area, is coring for the new sand. Anderson and Associates have taken over Burk Royalty Company et al's Holcom 1, a 4302-foot failure ¼-mile northwest of their discovery, to plug back and try for production.

Burk's Mathews 1, on the southeast corner of a 121-acre lease in the Bailey survey, will explore the new sand.

Clay County: Continental Oil Company's Heard 1-C, which has been showing for a new pool opener and situated 3 miles southeast of the Joy multi-pay field, flowed an average of 47 barrels of oil hourly through 1-inch choke after using 1500 gallons of acid in open hole at 6468-96 feet. The Ellenburger was entered at 6463 feet. This wildcat passed up commercial production in the 5700-foot Bend. Substantial lease bonuses have been paid for protection in the area on the strength of 2-pay possibilities.

Montague County: Continental's Jarrell 1, 2⅜ miles southwest of the McNutt pool, was drilling shale at 6600 feet, having passed up prospective oil production in the 5700-foot Bend conglomerate.

S. D. Johnson et al's Crenshaw 1, W. Wallace survey and 1⅝ miles northwest of 5300-foot Bend production in the Belcherville field, pumped 48 barrels of oil and 17 barrels of water on preliminary test of conglometrate perforations at 5550-65 feet.

Young County: Republic Natural Gas Company's Edwards 1-B, Sect. 3401, TE&L Company survey and a north offset to the Kerlyn-Edwards pool discovery, flowed 357 barrels natural through ¼-inch choke, with gas-oil ratio of 600/1, for completion from open hole at 5123-43 feet. The Mississippian was entered at 5104 feet, or about 20 feet low.

☆ East Texas

Mount Sylvan Area Prospect Exploring Basal Paluxy

Prospective oil discovery in Mount Sylvan area exploring basal Paluxy before setting pipe to complete; numerous deep wildcats nearing decisive levels; Falls County wildcat plugs off small show of gas in Travis Peak.

Smith County: Humble Oil & Refining Company's Pool 1 Mount Sylvan prospect, is coring sandy shale below 7530 feet and will explore the Paluxy series before running pipe to complete. This wildcat indicated commercial production from the 7300-foot Paluxy early in December, then shut down for titles. Deepening established the water level at 7420-40 feet and no shows have been reported below this zone.

Humble's Griffin 1, Seaborn Smith survey and a north outpost for the Sand Flat field, was temporarily mudded to set tubing after flowing oil and rotary fluid from perforations at 7580-90 feet in Paluxy topped at 7309 feet. The upper section of the Paluxy was not productive due to its low structural position.

Falls County: H. C. Cockburn and Zephyr Oil Company's Buie 1, second deep test for the Stranger faulted structure, showed sufficient gas to burn a small flare along with fresh water from perforations at 5582-86 feet in Travis Peak, topped at 4298 feet. These perforations were sealed and a small amount of gas with fresh water was showing from Glen Rose perforations at 3438-42 feet. Buie 1 entered the Cotton Valley at 5870 feet and Barren Smackover at 6460 feet in fulfilling at 7063-foot depth contract.

Hopkins County: Delta Drilling Company's Livingston 1, wildcat that showed possible gas distillate production in the Gloyd, was driling hard sand at 8455 feet.

Wood County: Magnolia Petroleum Company's McCreight 1, 3½ miles northwest of the Quitman field was drilling sand at 8005 feet in the Upper Rodessa series.

Leon County: Claude Bell's Browne and Carson 1, Flynn prospect, swabbed 40 barrels of oil, including accumulation, from Woodbine at 7303 feet. A small pumper may be developed, thus becoming the first producer for the Deep Woodbine that has resulted in an extensive campaign in nearby counties.

Houston County: H. L. Hunt's Houston County Timber Company Magnolia 1, W. M. Connor survey and 2 miles north of Hennard, logged the Austin chalk Woodbine contact at 7096 feet with elevation of 338 feet and no shows were encountered in drilling hard sand and shale at 7410 feet.

Shelby County: Hiawatha Oil Company's Pickering Lumber Company 1, W. J. Brittain survey, is drilling below 4789 feet.

Humble Oil & Refining Company's deep wildcat test, Pickering Lumber Company 1, St. Francois survey, after a squeeze job from 8317-10,609 feet, is drilling below 11,405 feet in shale and lime.

Marion County: Magnolia Petroleum Company's S. L. Orr 1, R. B. Fowler survey, is drilling below 7425 feet. A core from 7385-7410 feet recovered 5 feet of shale, 10 feet of dense lime, 10 feet of porous lime with a good show of oil, 11 feet of dense lime and black sand. A test made of that sector recovered only drilling mud.

New Geophysical Technique

A new technique which permits successful geophysical surveys in inundated areas has been developed and described in detail by Karl Hasselmann in a bulletin of the Missouri School of Mines at Rolla, Missouri. As devices designed to test gravity conditions of the earth's crust require a high degree of stability to be operated successfully, such surveys heretofore have not been possible in areas covered with water.

☆ South Central Texas

Dimmit County Test Has Wilcox Formation Gas Show

Gas show in Wilcox formation reported in Dimmit County wildcat; deep Kerr County test is failure; Atascosa County wildcats continue to test.

Dimmit County: Howard & Wheeler's Sarah W. Henrichson 1, wildcat in the Good Luck Colony subdivision, 2 miles southeast of Valley Wells, is coring below 3790 feet in the Wilcox formation after reportedly picking up a hard sand and shale showing in the Wilcox at about 3780 feet.

Kerr County: The Ohio Oil Company's Charles J. Robinson 1, wildcat in the southeastern part of the county, has been abandoned at 5070 feet.

Lee County: Humble Oil & Refining Company's George Vick 1, wildcat in the Tanglewood area, is drilling below 9⅝-inch casing set at 6101 feet. A drill-stem test at 6060-76 feet is reported to have recovered some oil.

Atascosa County: Humble continues to test Henry Schorsch 1, wildcat southwest of Jourdanton. Last perforations were made at 7387-90 feet with results of this test not announced.

Edwards County: Dan Auld's Peterson 1, wildcat 6 miles northeast of Rock Springs, was drilling near 4300 feet in sandy shale after setting 7-inch protection string at 4120 feet. This wildcat is credited with logging gas shows in shallow sands.

Mississippi To Study Gas Conservation Order

A hearing to consider evidence as to the practicability of issuing an order concerning the conservation and prevention of natural gas has been called for Friday, January 4, at Jackson, Miss., by the Mississippi State Oil and Gas Board.

Operators have been asked to show cause why natural gas produced in fields of three or more oil or condensate wells cannot be utilized for pressure maintenance, natural gas lift, manufacture of chemicals or light, fuel, or heat.

☆ Southwest Texas

New Production Opened on Piedras Pintas Dome Flank

New production opened on east flank of old Piedras Pintas salt dome in Duval County; second producer completed in Parsons field; Webb County gains wildcat location.

Duval County: Interest is focused on H. H. Howell's Parr 1, which has been completed in dual sands to open new production on the east flank of the old Piedras Pintas salt dome. Drilled to 5595 feet, operator set 5½-inch casing at 4063 feet. Perforated at 3796-3804 feet, the well flowed 246 barrels of 44-gravity oil daily through a 3/16-inch choke with casing pressure 500 pounds. On perforations at 3985-93½ feet the well flowed 263 barrels of 46.5-gravity oil daily through a 3/16-inch choke with

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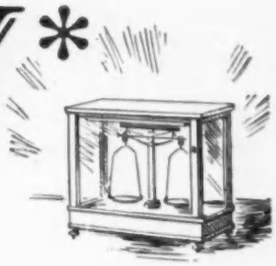

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a tubing pressure of 575 pounds. The Piedras Pintas salt water was discovered in June, 1898, and during its development had production from the Catahoula at 300 feet and from the Cockfield zone at 3450 feet. Since discovery of the dome, 27 wells have been drilled with total cumulative production on January 1, 1945, being 148,393 barrels. Until the present strike, no wells were producing on the dome.

Starr County: The second producer has been completed in the recently opened Parsons field with The Harrus Syndicate's M. M. Garcia 2 flowing 108 barrels of 41-gravity oil daily through a ⅛-inch choke from perforations at 3440-60 feet. Tubing pressure was 380 pounds and casing pressure 375 pounds. The discovery was completed in perforations at 3498-3512 feet.

Webb County: O. W. Killam has located J. G. Garcia 1 as a 2500-foot wildcat 3 miles south of Mirando City on Block 18, Sect. 592.

Sun Oil Company's Isaac Hirsch et al 2, wildcat 26 miles northeast of Laredo, is drilling below 2735 feet in hard sand.

Industry Group Makes Heyser Recommendations

Revised rules for the Heyser field, Calhoun County, to prevent gas waste recommended to the Texas Railroad Commission by the industry gas committee calls for transferring more allowables from high gas-oil ratio and water-oil ratio wells and closing them in. Allowables would be produced from other wells on the same leases which produce with lower ratios.

The gas-oil ratio would be reduced from 2500/1 to 2000/1, as provided in the statewide rules. Plans call for gathering all gas in the field and taking it to market. Humble Oil & Refining Company and Plymouth Oil Company would gather the gas and compress it in a plant to cost $1,115,000.

☆ Lower Texas Coast

Bee County Wildcat to Drill Deeper Before Testing

Bee County wildcat to drill deeper before testing; Shell still testing Jim Wells County deep wildcat; Willacy County wildcats fail.

Bee County: Mills Bennett's Martha Berger et al 1, wildcat southwest of Tuleta in the J. M. Uranga grant, is setting 7-inch casing to bottom at 8001 feet and will drill deeper before testing shows in the Slick zone. A drill-stem test at 7896-7905 feet recovered gas and condensate.

Sam E. Wilson, Jr., is preparing to drill a new Wilcox sand wildcat about 50 feet from his Page Estate 1 which recently was junked and abandoned after failing on a test in the Hockley at 3735 feet. The test will be on the same lease.

Jim Wells County: Shell Oil Company's William Van Hoogenhuyze 1, wildcat southeast of the Wilson field, was testing through perforations at 9040-49 feet with information withheld. The well is credited with flowing gas and condensate with a pressure of 2000 pounds through a ¼-inch choke.

Smith-Story-Wood Corporation has located National Bank of Commerce 2 as a 5500-foot wildcat 6 miles northwest of Beeville in the J. Poitecant survey.

Willacy County: Baldridge & King's W. P. Lincoln 2, wildcat 10 miles southeast of Raymondville, has been abandoned at 8515 feet.

Another failure for the county is Phillips Petroleum Company's W. S. Livingston 1, 12 miles northeast of Rio Hondo. Total depth was 12,002 feet.

San Patricio County: J. K. Dorrance's Doris R. Benerdon 1, wildcat 2 miles southeast of Sinton, is drilling below 5780 feet in sandy shale on a 7000-foot contract.

Phillips' Mrs. Ola McCann 1, wildcat 6 miles east of Gregory, is shut down for repairs at 6652 feet. Proposed depth is 10,500 feet.

Jackson County: The Pure Oil Company's Louis Kuretsch 4, southeast of production at West Ganado, is setting 5½-inch casing on bottom at 4750 feet for completion.

DeWitt County: Pure's A. F. Karl 1, wildcat in the Yoakum area, is coring below 8450 feet in sandy shale. No shows have been reported.

New Stanolind Department

Stanolind Oil and Gas Company will establish January 1 a Manufacturing Department which will be responsible for the sales of all manufactured products, purchases and sales of gas, and planning, designing and handling of all technical matters relating to the operations of proposed gasoline, recycling and repressuring plants.

☆ Upper Texas Coast

Magnolia's Trinity County Deep Wildcat to Be Tested

Magnolia to test deep Trinity County wildcat; Humble testing Wilcox sand in Tomball field; dual sand completion due in Coldsprings field.

Trinity County: Magnolia Petroleum Company's Bolton 2, deep wildcat in the Glendale area, Henry Bond league, is squeezing perforations at 10,493-495 feet and will reperforate at 10,500-520 feet for a production attempt. Total depth is 12,505 feet with 7-inch casing set at 10,642 feet. This wildcat found a thin sand section in the Woodbine around 9900 feet and found some porosity in the Georgetown lime around 10,500 feet.

Harris County: Humble Oil & Refining Company's Milo 10 Tomball field, deepest test ever drilled by Humble, is connecting flow lines in preparation for a production test in the Wilcox formation. The test was drilled to 15,452 feet and plugged back to 10,200 feet for completion. Operator perforated at 10,075-085 feet with 52 shots for the production test.

San Jacinto County: Butcher-Arthur, Inc., has applied for a Railroad Commission permit to dual complete W. S. Childress 1-A in the Coldsprings area. Total depth of the well was 5620 feet with 5½-inch casing set at 5615 feet. On initial test, the well showed gas and some distillate through perforations at 5486-90 feet.

Brazoria County: Jack Frazier's McLean & Carpenter 1, wildcat in the Pearland area, has spudded and is drilling below 2890 feet in sandy shale.

On the east side of Chocolate Bayou, Phillips Petroleum Company's R. L. Kepner 1, HT&B survey, is a new location.

Newton County: Fred Manning and Yeuga Corporation's H. B. Funchess, Jr., 1, 7500-foot Wilcox sand wildcat in the southwest corner of the county, is shut down at 3305 feet because of high water.

Fort Bend County: Jack Frazier's G. W. Trone Estate 2, H&TC survey, wildcat 5 miles southeast of Needville, has been abandoned at 4905 feet.

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☆ South Louisiana

Jefferson Parish Has New Bayou Perot Field Sand

New sand opened in Bayou Perot field; Jefferson Davis Parish discovery shut in for storage; completion attempts to start on Evangeline Parish wildcat.

Jefferson Parish: The California Company has completed a second producer and opened a new sand in the Bayou Perot field at E. P. Brady 3 in 2-16s-23e. Perforated at 9260-85 feet in a sand higher than the discovery pay, the Brady 3 flowed 314 barrels of 37.7-gravity oil daily through a 10/64-inch choke with tubing pressure 2000 pounds. Total depth was 10,500 feet with pipe set at 9490 feet. The gas-oil ratio was 1382/1. California's Brady 1 was completed early in 1945 in sand topped at 9893 feet to open the Bayou Perot field.

In the Barataria area, California's Lester Pailet et al 1, deep wildcat, is running an electric survey at 12,608 feet.

Jefferson Davis Parish: Sohio Petroleum Company's Claudius Fontenot 1, new field discovery well in the Iowa Junction area, is shut in for storage. The well came in flowing at the rate of 6 barrels of 37-gravity oil an hour through a ⅛-inch choke from perforations in the Frio at 9694-9703 feet.

St. Mary Parish: The Atlantic Refining Company's St. Mary Parish Land Company 18, Bayou Sale field, has been completed for 223 barrels of 36.5-gravity oil daily through a ¼-inch choke from perforations at 10,122-126 feet.

Atlantic's R. E. Kimbrough et al 1, Jeanerette field, was finaled for 430 barrels of oil daily through a 10/64-inch choke from perforations at 10,486-490 feet.

Beauregard Parish: Magnolia Petroleum Company's Lutcher-Moore Lumber Company 2-C, wildcat in the Pinegrove area, is drilling below 9982 feet in sandy shale after topping the Wilcox at 9950 feet.

Evangeline Parish: Magnolia's J. B. Morein 1, Mamou area, 5-5s-1e, prospective pool opener, has 7-inch casing set near bottom at 11,653 feet with preparations being made to start completion attempts. This wildcat found oil sand in the top of the Wilcox formation at 11,510 feet.

☆ North Louisiana

Natchitoches Wildcat Tests As Probable Oil Discovery

Natchitoches wildcat testing as probable oil discovery; Benton field extended ¾-mile; Franklin discovery erecting tanks and separator.

Natchitoches Parish: M. T. Halbouty et al's C. L. Detro 1, 1-13n-8w, is being tested as a probable field opener in the Ashland area. The well has cored 14 feet of oil-bearing Woodbine sand. A drill-stem test at 3285-96 feet recovered 570 feet of 28-gravity oil, 60 feet of salt water and 40 feet of drilling mud. A later core at 3301 feet recovered 2 feet of soft saturated oil sand and 2 feet of tight hard sand. Crews are running casing to bottom for production test. Other wells have been drilled and abandoned in this sector, after logging thick sand sections without commercial showings.

Bossier Parish: Barnsdall Oil Company-Sohio Petroleum Company's wildcat, Carter-Burton 1, C NW NW 26-23n-13w, 4 miles north of Plain Dealing, recovered shows of oil in cores from 6379-99 feet in the Pettit. Operators are drilling deeper for a break, at which point coring will be resumed. The well will go to 9300 feet, deep enough to test the Cotton Valley.

Barnsdall and Sohio will extend the Benton field ¾-mile east and ¼-mile south at Welori Lumber Company 2, C NE SW 8-20n-12w, upon completion. Operators logged gas-distillate production in the Cotton Valley "D" sand from 8054-89 feet, and are drilling to the Bodcaw for a core at 8166 feet. The well is checking 55 feet lower than the discovery and 3 feet higher than Padgett-Bundy 1, an extensioner 1 mile south and ¼-mile east.

Caddo Parish: J. R. Querbes, Trustee, et al completed A. J. Mitchell 1, C NW NW 8-18n-16w, Longwood field, as an estimated 100-barrel-a-day producer. Operators reperforated in the Moneyham from 5898-5906 feet and acidized with 500 gallons of mud acid before the well started cleaning into pits. Previously, the well had been perforated from 5898-5906 feet and flowed gas and distillate which was thought to be channeling behind casing. A squeeze job shut off the pay from below. Testing will be continued.

Union Producing Company is drilling below 8053 feet in black shale and lime without showings at Noel Estate 1-A, 11-19n-16w. The wildcat is scheduled to 8500 feet. Cotton Valley top was logged by samples from 7710-20 feet.

Franklin Parish: Gus K. Primos-C. W. Sharp are erecting tanks and separators for an initial test at Butler 1, C SW NW 20-16n-8e, Paluxy oil discovery 6 miles south of Big Creek field. Hole is standing full of oil, with bottom at 3787 feet.

C. L. Smith's wildcat, A. B. Mitchell 1, 28-11n-7e, is drilling below 7700 feet. Smith's Stark 1, 26-13n-7e, wildcat, is coring at 6388 feet; and Polk Estate 1, C NW SE 27-14n-7e, is below 3400 feet.

☆ Arkansas

Union Wildcat Tests Oil; Two Fields Get Producers

Union wildcat has 1 percent show of oil on test; Miller wildcat fails, new test getting under way; Fouke and Village fields get producers.

Union County: H. L. Hunt and The Atlantic Refining Company's Goode 1, NW 6-17s-13w, wildcat in the Champagnolle area, on a drill-stem test of 5632-46 feet recovered salt water with 1 percent show of oil. Operators plugged back to 5632 feet and will perforate for a new test.

Miller County: Deep Rock Oil Corporation abandoned Mrs. W. D. McClouth 1, C SE SE SE 26-15s-28w, wildcat 2 miles northeast of The Carter Oil Company's Orr 1, Texarkana field discovery. The well went to 5120 feet in the Travis Peak topped at 5080 feet. No shows of oil were recovered from sidewall cores.

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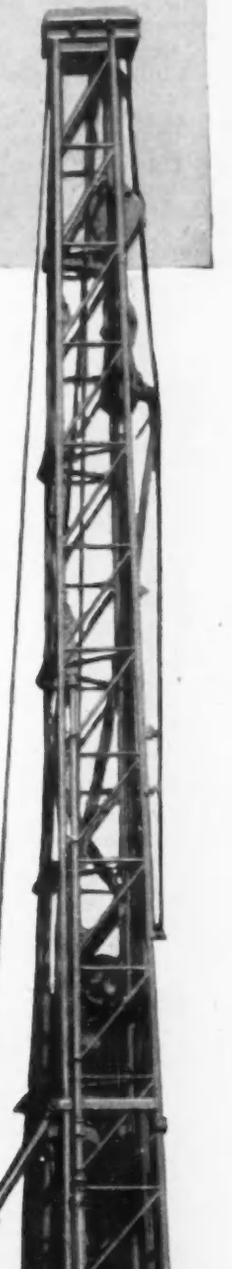

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A. W. Smith 2, SE 24-15s-26w, 4600-foot wildcat 3 miles northeast of the Garland City field of Paluxy production. Operators recently abandoned A. W. Smith 1, 24-15s-26w, at 4035 feet. Several tests have been drilled and abandoned in the area.

Carter's J. W. May 1, C SE SE SW 28-16s-26w, Fouke field, had indications of oil in the Paluxy sand from 3582-3622 feet and is setting casing at 3711 feet, total depth, to test.

Columbia County: McAlester Fuel Company completed Threadgill 1, C NE SW 10-17s-19w, Village field, for 150 barrels of oil and 25 barrels of salt water flowing through 10/64-inch choke on tubing from the Smackover at 7393-95 feet, total depth. Oil is from open hole, with gas-oil ratio 1000/1.

Texas Fields Named

Three recent discoveries in South Texas have been officially named by the oil field nomenclature committee of the South Texas Geological Society, Don O. Chapell, chairman, has announced.

Humble Oil & Refining Company's Hermie H. Davis 1, T&NO survey 15, Dimmit County, has been named "Carrizo Park." Calatexia Oil Company's S. E. McKnight 1, I&GN survey 35, Dimmit County, has been given the name of "McKnight Ranch." In Starr County, W. H. Holland's M. M. Garcia 1, Porcion 91, has opened the "Parsons" field.

☆ Mississippi

Humble to Test Eutaw In Greene County Prospect

Greene County prospect to exploit shows in Eutaw; Adams County test has additional shows of condensate in Massive sand test; Baxterville extension completed.

Green County: Humble Oil & Refining Company's Oscar Waer 1, NEc SE 33-5n-8w, Massive Sand prospect which reported shows of oil in the Eutaw section at 6749-64 feet, is plugging back to test the productive section after failing to turn up encouragement below that horizon. The well was drilled to 8300 feet and in a drill-stem test of the Massive sand zone at 8050-80 feet, only water cushion and salt water were recovered. Humble's Harry Stover 3, NEc 20-3n-7w, which will make a flank test of the Byrd Dome, has erected derrick.

Adams County: Roeser & Pendleton's Sohio Petroleum Company's Baker-Maier 1, NWc 34-6n-2w, only prospect to show definite commercial possibilities in recent weeks, is reported to have encountered shows of gas-condensate in the 10,500-foot zones. Cores from 10,533-57 feet recovered sand of fair porosity and good odor. Tests will continue in the effort to determine the value of the zone. Meanwhile, driller is working below 10,649 feet, but if further tests develop no commercial production of the Massive sands, the well will be plugged back to the Wilcox area at 4630-46 feet, where good oil shows were noted. Phillips Petroleum Company's Davey 1, NE NW 46-8n-2w, wildcat, is drilling below 9675 feet with no shows reported. In the Carthage Point field Humble's Mrs. C. L. S. McKittrick 1, SEc 12-6n-3w, is drilling below 10,158 feet after running electric log. No shows have been reported.

In the Cranfield field The California Company's George W. Armstrong 1, 27-7n-1w, is drilling below 9236 feet. No shows have been indicated.

Wayne County: Gulf Refining Company's Lun Woodard 2, NWc NE SE 6-9n-8w, Eucutta field, is preparing to continue tests after the well swabbed good quantities of oil from the Eutaw section at 5163-68 feet. Humble's G.M. &O.Ry. F-1, NE SE 13-9n-9w, is installing pump after well was swabbed down to 4200 feet. Tubing has been run to the productive zone and casing perforated at 5162-68 feet. Gulf's Wausau Southern Lumber Co. 4, NEc NW NE 12-9n-9w, Eucutta, is testing the Eutaw zone at 5206 feet with no shows.

Marion County: The Superior Oil Company's R. Batson 5, NEc SW SE 12-1n-17w, western extension of the Baxterville field, has been dually completed. Casing was perforated at 7740-50 feet opposite the upper Tuscaloosa and flowed at the rate of 3,790,000 cubic feet of gas per day in addition to yielding 32 barrels of 55.9-gravity condensate. Oil production is developing from several sets of perforations between 8612-8764 feet in the lower Tuscaloosa and Massive.

Yazoo County: Sohio's Guy Brumfield A-5, NEc SE SE 2-10n-3w, Tinsley field, has been successfully completed with an initial production of 264 barrels

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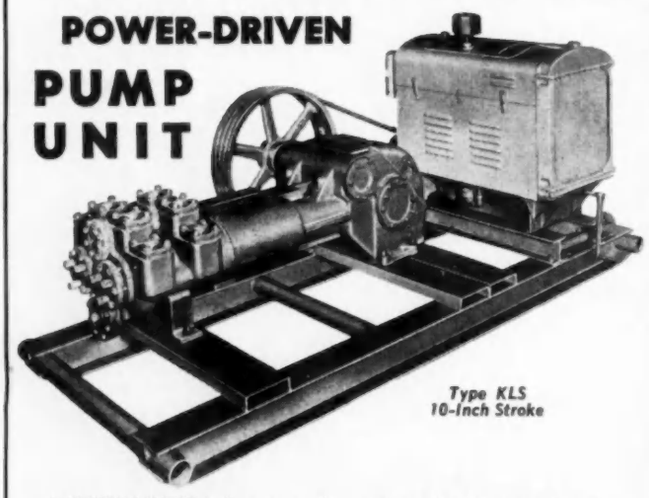

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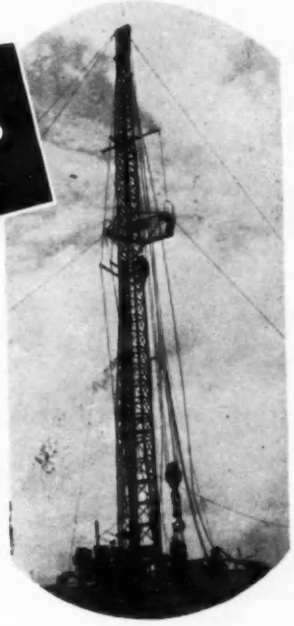

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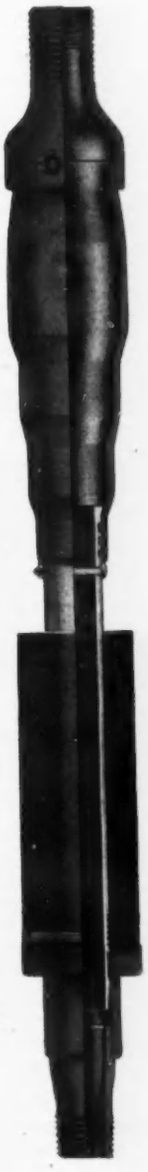

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of 36.2-gravity oil per day. Casing was perforated at 5340-52 feet in the Lammons Sand zone to develop production. Sohio's G. & M. Brumfield B-11, NEc SE SE 2-10n-3w in Tinsley, is running core tests below 5160 in the Perry Sands. No shows have been reported.

Jefferson County: Humble's S. Hirsch Company 1, 15-9n-1e, Hub field, is preparing to squeeze off perforations at 9728-33 feet in the Massive sand section after a drill-stem test yielded only salt water at that point. The entire zone has been extensively tested but no shows have been reported. Humble's J. Fred Gordon 1, 25-9n-1w, Hub area, is drilling below 3500 feet after running electric log to 2365 feet.

Sharkey County: J. H. Gwin's Rice 1, SW SW SW 14-11n-7w, Cary field, is shut down after reaching 181 feet. In the same area this operator is preparing to test Whitney Trust & Savings Bank 1, SW SW SW 13-11n-7w. This is the first activity in this area since the British American Oil Company completed F. B. Houston Estate 3, SEc 15-11n-7w, in September. The well was due to be worked over as it was making considerable salt water on initial production test. Production was developed from the Gas Rock section at 3272-74 feet after the well had been drilled to a total depth of 8545 feet with no shows indicated in the lower horizons.

Perry County: Gulf's B. M. Stevens 1, SE NW 28-5n-10w, Massive sand prospect, has been abandoned at 8873 feet. The well was continuously tested all the way down but no shows were reported. Stanolind Oil & Gas Company's Masonite Corporation 1, wildcat, in SW NE 7-3n-9w, is drilling below 7251 feet in chalk with no shows.

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☆ Alabama

Carter's Gilbertown Well Good for 96 Barrels Daily

The Carter Oil Company's Johnson Unit 1, SW SE NW 4-10n-3w, Choctaw County, Gilbertown field, has been completed with an initial production of 96 barrels of 20.4-gravity oil per day. The well was driled to 3340 feet and swabbed in.

Mobile County: Danciger Oil Refining Company's William R. Giesler 1, NE SW 8-4s-2w, is drilling below 8350 feet with no shows.

Clarke County: C. V. Carey and Nu-Enamel Corporation are moving in material for a new wildcat, A. W. Hill 1, C SW NW NW 27-9n-1e.

Georgia

Kerlyn Oil Company's Cecil Pate 1, C SE Lot 144, Land District 13, Crisp County, is waiting on cement at 60 feet after setting surface casing.

Montgomery County: James E. Weathford's new test, H. Wilkes 1, ½ mile west of Higgston, is rigging up rotary.

Florida

Humble Oil & Refining Company's Gulf Coast Realty Company 6, SW NE 19-48s-30e, Sunniland field, Collier County, is drilling below 5493 feet with no shows.

Bay County: The Pure Oil Company's International Paper Company 4, SWc 8-3s-12w, wildcat, is drilling below 3412 feet after running electric log.

Charlotte County: Humble Oil & Refining Company's Lownes-Treadwell 1-A, SW NE 17-42s-23e, is drilling below 13,140 feet with no shows.

Highlands County: Humble's other deep test, G. C. Carleton Estate 1, C SW NE 34-38s-29e, is drilling below 12,750 feet in hard shale, so far without shows.

Monroe County: O. D. Robinson's State 1, 29-59s-40e, is below 7720 feet, having restored circulation.

Gulf Refining Company's State of Florida 1, 2-67s-29e, was at 3007 feet and reaming to set 13⅜-inch casing.

Lafayette County: Sun Oil Company's Crapps 1, C SW NE 25-6s-12e, plugged back from 2512 feet to 1650 to drill by lost fish.

New Map Shows 257 Oil and Gas Fields in Illinois

Illinois State Geological Survey, Urbana, Illinois, announces a new oil and gas map of Illinois, dated January 1, 1945. The new map shows the location and extent of 257 oil and gas fields in Illinois and also the location of oil refineries, large natural gasoline plants and principal pipe lines transporting crude oil, gasoline and other refined products, and natural gas. The names of the oil and gas fields, pipe line companies, and oil refineries also are given.

Orders for the new map should be addressed to the Illinois State Geological Survey, Urbana, Illinois. One copy is available free to citizens of Illinois until February 1, 1946. The map may also be obtained showing only oil fields but not pipe lines and refineries. The regular price for either map is 35 cents per copy.

☆Rocky Mountain Area

Deep Wildcat Is Spudded In Weld County, Colorado

Shannon's Weld County wildcat spudded; Rattlesnake Butte test interests Montana operators.

Colorado

R. S. Shannon and associates spudded their Greasewood Flats wildcat for a deep test to be completed with cable tools, after using a rotary to reach the pay zone. The Shannon well, known as the Colorado Unit Oil Corporation's Kirchof 1, is in 11-6n-61w, Weld County. Also ready to spud is The Ohio Oil Company-Tide Water Associated Oil Company's second wildcat in the Greasewood Flats area.

Montana

Petroleum County, scene of the rapid-fire development of a series of flowing wells on Mosby Dome extension of the Cat Creek field, now is drawing attention with another significant wildcat being drilled on the Rattlesnake Butte structure by the Dave Schrock-H. H. Schwartz, Jr., combination that brought in the Mosby Dome producers from the Ellis sand. The Rattlesnake Butte wildcat, Schrock-Schwartz Government 1 in SW SE 22-13n-28e, was drilled to 2290 feet with cable tools and now is to be deepened with the same rotary rig that brought in the five flowing wells on the Schrock-Fifer lease at Mosby Dome. The operators expect commercial production in the second Cat Creek sand at about 2720 feet as well as in the Ellis at about 3135 feet.

Bureau of Mines to Handle German Technical Data

Distribution of information and data gathered by the Technical Oil Mission in Germany has been turned over to the Bureau of Mines by PAW as that agency prepares to go out of business entirely.

A number of reports have already been made available, but some 250,000 pages of records remain to be screened, abstracted and translated.

☆Illinois Basin

Rosiclare Strike Probable In Mattoon Pool, Illinois

Rosiclare strike looms for Mattoon pool, Illinois; Perry County wildcat tests oil in Benoist sand.

Illinois

The Mattoon pool of Coles County, which has nearly 100 operations or approximately 33 percent of all activity in the state, is practically certain of another discovery well at Victor Scheef's Udell 1, C of NE 15-11n-7e. Casing was set to test excellent Rosiclare sand and doubtful Cypress pay. An electric log showed the Rosiclare capable of top-rate production. The same operator is drilling an east offset to the discovery.

Homer Luttrell's Crews 1, SW NW SW 12-12n-7e, semi-wildcat, swabbed 9 barrels of oil per hour from Rosiclare sand after a shot.

Closely watched is Thomas L. Smith's Dole 1, SE NE SW 7-11n-7e, 3½ miles west of production in the Mattoon pool. The well is on a geological structure separate from the Mattoon structure and in an area reportedly favorable on seismograph shots made by a major oil company 2 years ago. Holding acreage in the area in addition to a few independent operators are Sun Oil Company, which began leasing 2 years ago, Gulf Refining Company, The Pure Oil Company, and Rock Island Refining Company. A success will open an area larger than the Mattoon pool to development.

Richland County: Olson Drilling Company has set casing at Cast 1, SW SE SE 31-3n-10e, in Madison township ½ mile from production and 5 miles south of Co-operative Refining Company's Rotrammel 2, which made 1798 barrels of oil daily from McClosky lime after an acid treatment. The Rotrammel flowed more than 1100 barrels natural.

N. V. Duncan and Russell Johnson are rigging tools to retest Winter 1, NW SE 11-3n-10e, originally drilled to 3301 feet and abandoned by Hiawatha Oil Company several years ago. McClosky lime at 3187-93 and 3266-76 feet will be tested.

Perry County: The Texas Company's Schwind 1, SW SW SW 29-4s-3w, wildcat south of DuBois, tested oil in the Benoist sand during swabbing opera-

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tions and is expected to open a producing area.

Madison County: E. A. Obering's Mossiman 1, NW SE NW 28-5n-5w, is ready to start drilling below surface pipe in wildcat territory. Devonian lime is the potential producing zone of the area.

Kansas Geologists Elect

Harold O. Smedley, district geologist at Wichita, Kans., for Skelly Oil Company, was elected president of the Kansas Geological Society, succeeding Virgil B. Cole of Gulf Oil Corporation.

The geologists also elected Paul Harper, vice president; F. E. Mettner, secretary-treasurer and M. F. Bear, member of the board of directors for a two-year term.

☆ California

Ohio Abandons Gardena Test Due to Mechanical Trouble

Ohio abandons Gardena wildcat due to mechanical trouble; Shell takes over holdings of C. G. Willis in Bandini district; Long Beach deep test held up with fishing job; Standard of California logs unidentified rich oil sands between 3275-3325 feet in Cymric field; Lost Hills deep test suspended.

Los Angeles County: After trying for over three months to make a producer of its promising wildcat, Gardena Community 1 in 24-3s-14w, The Ohio Oil Company has abandoned. Considerable oil sand was logged at various intervals and on tests the well flowed several hundred barrels, but because of inability to eliminate water, commercial production could not be obtained. The well was drilled to 10,594 feet and has 7-inch casing cemented at 10,353 feet. Showings were of such promise that the operator will doubtless continue to explore the area.

Shell Oil Company has concluded a deal with C. G. Willis for the latter's acreage in the Bandini district. There are more than 1000 acres in the block and the transaction includes the Willis wildcat, Pansini 1 in 23-2s-12w, which has been idle for several months.

Richfield Oil Corporation's wildcat, Union Pacific Unit 1 in Sect. 9, Bandini area, cored rich oil sand above 8608 feet and on tests produced about 1000 barrels, water cut 30 percent. Efforts to eliminate the water have been unavailing and operator has been drilling ahead from old bottom and is now below 8825 feet. Richfield's second test of the area, Simons 1 in Sect. 15, is coring below 7200 feet, and a third test, Vail 1 in Sect. 16, recently cemented 13⅝-inch casing at 1018 feet. In Sect. 21, Chanslor-Canfield Midway Oil Company's Bandini 1 is drilling below 7580 feet.

Shell stuck tubing in its 14,950-foot deep test of the Long Beach field and is fishing. Formation tests of showings in the lower part of the hole were inconclusive and testing will be resumed after fiishing. Well is bottomed in fractured Basement.

Orange County: In the Buena Park area, General Petroleum Corporation's Librown 1 in 21-3-11 continues to prospect below 12,465 feet. No important oil shows have been logged since deepening from 12,200 feet, where the well flowed by heads for several days, then died.

Kern County: Development work continues to be concentrated in the Cymric and Edison fields. In the former, Standard of California has logged an unidentified oil sand between 3275-3325 feet in Weston 3, 26-29s-21e. On a test the well flowed 2000 barrels, 7.5 percent cut. Total depth is 3396 feet in shale. Union Oil Company's Anderson 54-26, also in Sect. 26, has been completed, flowing 300 barrels through a ⅜-inch choke. Total depth is 3615 feet, with 7-inch shut-off at 3260 feet. To the northwest in Sect. 22, The Superior Oil Company has completed Woody 57-22, flowing 339 barrels of 37-gravity oil. Dumm Brothers 17 found the Oceanic sand gray and has been abandoned at 5535 feet. H. H. Magee's Bolton 2, also in Sect. 22, logged some oil sand in the Oceanic zone and will set casing on bottom at 6006 feet and gun perforate the interval 5800-5840 feet for a test.

Three wells were completed in the Edison field. L. A. Gilmour, operator, completed Kirk 1 in 6-30s-29e, pumping 250 barrels of 15.6-gravity oil, total depth 4619 feet. Union Oil's Brockman 2A in Sect. 13 was completed, flowing 1630 barrels of 21.4-gravity oil through 1-inch choke. Total depth is 2810 feet. The Texas Company's Hintz 1 in Sect. 23 is pumping 10 barrels net, 42 percent cut, all mud. Operator is starting Hintz 2.

Western Gulf Oil Company has completed a well in the Santiago field. Woodward-U.S.L. 5 in 22-11n-23w flowed 1100 barrels of 20.4-gravity oil, 4 percent cut, through ½-inch choke from 3674 feet.

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1 Type D Ideal Swivel, *new*.

1 87' Lee C. Moore Cantilever Derrick with 8' steel sub-structure.

2 Steel tool houses on one set of skids with 2 light plants (1 *new*).

All hand tools, subs, rope, drilling hose, elevators, slips, tongs, etc.

TEXAS PIPE AND SUPPLY COMPANY
INCORPORATED
NEW IBERIA CORPUS CHRISTI
1700 Block Maury St Phones Cap 0396, L D 440
HOUSTON, TEXAS

Houchin 63-34 in 34-31-26, Paloma field, flowing 600 barrels of 32-gravity oil through a ¼-inch choke. Total depth is 11,696 feet. Location has been staked for Houchin 52-34.

Standard of California has suspended operations in its Lost Hills deep test, Cahn 58-4, due to mechanical trouble incident to high-head water, and it seems unlikely that further work will be done on this well.

Fresno County: Texas will drill a wildcat in the Tranquility area in 16-16s-15e.

Ventura County: Shell is preparing to abandon its deep test in the Long Canyon area, McBean 1 in 33-3n-20w. Well has been idle for several weeks at 10,549 feet.

☆ Canada

Answer on Turner Valley Extension Attempt Near

An answer on prospects in an area extending 4½ miles northwest of the current proven limits of the Turner Valley field is expected in mid-January. Home-Millarville 20, lsd 7 24-21-4w5, 1½ miles northwest of proven limits, has confirmed its Madison Limestone objective at 9303 feet, set 7-inch casing at 9311 feet, and was to drill in December 27. With derrick floor elevation 4431 feet, lime elevation is 4872 feet sub-sea. Home Oil Company's second northwest extension venture, Home-Millarville 21, lsd 11 34-21-4w5, 3¼ miles northwest of No. 20, has confirmed Dalhousie sand at 9160 feet, compared with 8925 feet at No. 20, and may reach the Madison early in January only about 150 feet lower than No. 20.

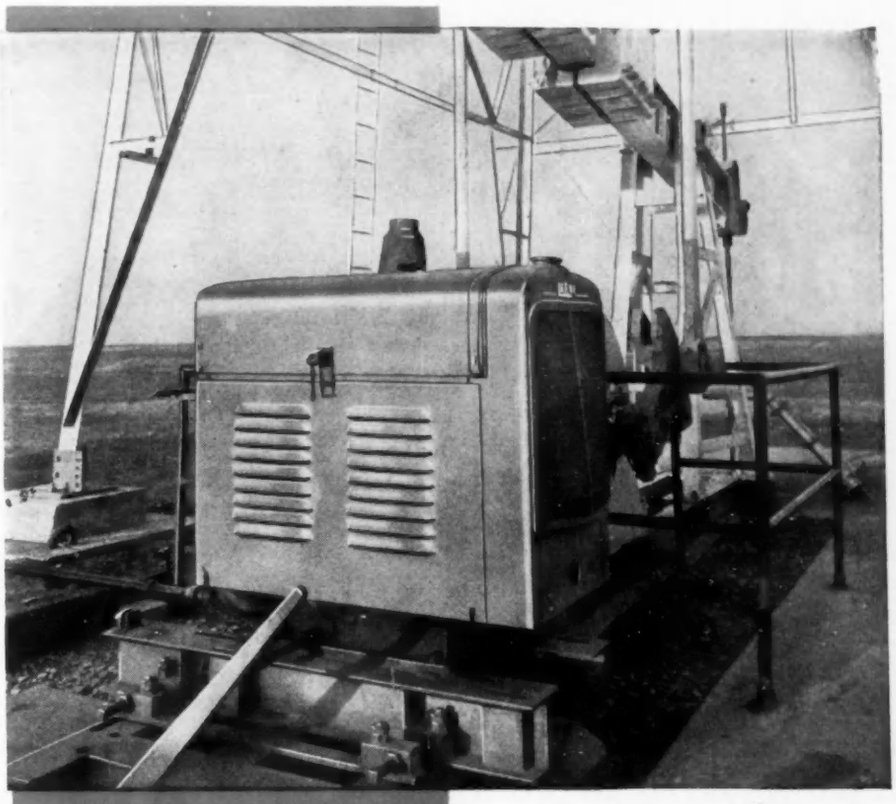
National-Empire 1, lsd 10 34-19-12w4, South Princess Sunburst Sand discovery, has an estimated open flow potential of 40 to 50 million cubic feet of gas daily, accompanied by a flow of 26 to 28-gravity oil perhaps as high as 15 barrels hourly. Efforts to curtail the gas flow have been unsuccessful. Efforts will be resumed in the spring. With no gas market immediately available, the well has been shut in.

Meanwhile, efforts are continuing to develop a Sunburst oil pool down flank from the National-Empire. First follow-up test, P. S. & D.-Princess-Globe 1, ½ mile north, was in the Sunburst December 24. Sunburst was topped at 3265 feet, about 8 feet lower than at National-Empire.

Elbow Falls 2A, lsd 4 28-22-6w5, on the Moose Dome about 30 miles southwest of Calgary, shows an estimated 1 million cubic feet of gas in the upper part of the Cambrian, plus a showing of light oil. Testing continued. Bottom is at 2628 feet. The Chost River formation (regarded as top of the Cambrian) showed at 2182 feet. Porosity was indicated in the cuttings at 2420 feet.

Ohio Oil Increase

The Office of Price Administration has fixed a new ceiling price of $2.25 per barrel at the receiving tank for crude produced from the Berea Sand, Meigs County, Ohio, effective December 23.



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Carson Machine & Supply Company, Oklahoma City

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General Machine & Supply Company, Wichita Falls, Odessa

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Carson Machine & Supply Company, Great Bend

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EXPLORATORY COMPLETIONS

ALABAMA WILDCAT

Wilcox County—Failure: Seaboard Oil Co.'s S. M. McConnico 1, swc nw 32-12n-10e, Eutaw 1320 ft, Tuscaloosa 1640 ft, Massive sd 2527 ft, abnd 5776 ft.

ARKANSAS WILDCAT

Miller County — Failure: Deep Rock Oil Corp.'s Mrs. W. D. McClouth 1, c se se se 26-15s-28w, Nacatoch 1150 ft, Massive anhy 4262 ft, Travis Peak 5080 ft, abnd 5120 ft.

CALIFORNIA WILDCATS

Kern County—Failure: Dumm Bros.-Olympic Ref. Co.'s No. 17, 22-29s-21e, Cymric area, abnd Kreyenhagen shale 5535 ft.

Glenn County—Failure: General Pet. Corp.'s Norman 1, 5-18n-1w, Packer Island area, Base Tehama 1910 ft, base Capay 2120 ft, abnd 3699 ft.

Fresno County—Failure: Petrol Corp.'s 1-22, 22-15s-19e, Raisin City area, Domengine 5657 ft, Eocene 5675 ft, Cretaceous 5865 ft, abnd Cretaceous 6350 ft.

Los Angeles County—Failure: Ohio Oil Co.'s Gardena Community 1, 24-3s-14w, Gardena area, abnd 10,594 ft.

Ventura County—Failure: Oceanic Oil Co.'s Hunter 1, 32-4n-18w, Torrey Canyon area, abnd gray sd 2777 ft.

KANSAS WILDCATS

Barber County — Gas Discovery: Skelly's Boggs 1, nw nw ne 8-33s-12e, flow 5 mln gas, Miss lm 4471-93 ft, td 4493 ft.

Ellis County — Failure: Fred Anschultz's Hoff 1, sec 18-12s-16w, Top 3068 ft, abnd 3691 ft.

Marion County—Failure: Veeder Supply Co.'s Lietz 1, ne sw sw 6-18s-5e, Miss chat 2262 ft, abnd 2304 ft.

Russell County — Oil Discovery: Coralena Oil Co.'s Olson 1, se se 23-13s-15w, pump 29 bbls oil, 57% wtr, KC lm 3249-78 ft, td 3336 ft.

Sumner County—Failure: Ed Adair et al's Gardner 1, ne ne sw 3-33s-2e, Miss 3465 ft, Simp sd 3484 ft, Arb 3512 ft, abnd 3537 ft.

NORTH LOUISIANA WILDCATS

Caldwell Parish—Failure: Crescent Drilling Co.'s La. Central Lbr. Co. 1, c n½ ne se 25-13n-3e, abnd 3565 ft.

Grant Parish — Failure: W. A. Romans' Mayson 1, 24-9n-1w, abnd 1660 ft.

Tensas Parish — Failure: Chalmette Pet. Corp.'s Carter-Towers 1, 28-11n-11e, abnd 5510 ft.

SOUTH LOUISIANA WILDCATS

Calcasieu Parish—Failure: Arkansas Fuel Oil Co.'s Louisiana State 2, 3539 e 2421 s of nwc 33-10s-13w, abnd 10,360 ft.

SOUTH LOUISIANA NEW PAY TEST

Jefferson Parish—Bayou Perot Discovery: Calif. Co.'s E. P. Brady 3, begin at "Perot 1934" th n 89° 25" 50 mins e 7780 to lcn in 2-16s-23e, pay 9261 ft, perf 72 shots 9260-85 ft, flow 314 bbls 37.1-gr, 10/64-in, gor 1382/1, tp 2000 lbs, td 10,500 ft.

MISSISSIPPI WILDCATS

Perry County—Failure: Gulf's B. M. Stevens 1, se nw 28-5n-10w, Wilcox 2200 ft, Eutaw 6827 ft, Tuscaloosa 7051 ft, Massive sd 8359 ft, abnd 8873 ft.

Smith County — Failure: Hunt's Smith County Oil Co. 3, swc 4-2n-8e, Eutaw 5925 ft, Tuscaloosa 6435 ft, Massive sd 7477 ft, abnd 7647 ft.

MISSISSIPPI OUTPOST

Marion County—Baxterville Extension: Superior's R. Batson 5, nec sw se 12-1n-17w, ½ mi w prod, dual comp: flow 268 bbls fr L. Tuscaloosa 8612-8764 ft; flow 3,790,000 gas, 32 bbls cond fr Tuscaloosa 7740-7750 ft, td 8770 ft.

OKLAHOMA WILDCATS

Carter County—Failure: Samedan Oil Co.'s Creom 1, nw ne se 20-4s-1e, abnd 5255 ft.

Garvin County—Failure: Schneider & Pennington's Pollock 1, se sw sw 13-4n-3e, abnd 1061 ft.

Noble County—Oil Discovery: Deep Rock's White 1, sw ne ne 19-23n-2w, flow 150 bbls, Wx sd 4433-50 ft, td 4450 ft.

Okfuskee County—Failure: McIntyre-Sherman et al's Curry 1, se ne nw 20-12n-8e, Wap lm 3775 ft, Crom sd 3787 ft, abnd 3831 ft.

Osage County—Failure: Devonian Oil Co.'s Osage 1, se nw nw 28-29n-7e, abnd 3136 ft.

Pottawatomie County—Failure: Globe O&R Co.'s Romberg 1, ne ne sw 23-10n-4e, Vi 4810 ft, 1st Wx 4929 ft, abnd 4939 ft.

WEST TEXAS WILDCATS

Crockett County — Failure: Moore Explor. Co.-Stanolind-Magnolia's Halff-Bivins 1, 660 out swc I&GN Ry. 65, blk 1, elev 2175 ft, anhy 353 ft, Yates 610 ft, Soma sd 755 ft, Grayburg ll 1415 ft, San Andres 1510 ft, Clear Fork 2870 ft, Penn 5620 ft, Simpson 6730 ft, Waddell sd 7140 ft, Ellen 7222 ft, abnd 7512 ft.

Hale County — Failure: Globe O&R Co.'s Downs 1, c se sw T.T. Ry. Co. 5, blk J-K, elev 3455 ft, ahy 1470 ft, San Andres 2870 ft, abnd 5807 ft.

Howard County—Oil Discovery: Bruce C. Clardy's Fee 1, c sw sw T&P Ry. 4, blk 33, T-1-N, elev 2569 ft, anhy 1120 ft, salt 1220-1780 ft, Yates 1820 ft, Grayburg 2930 ft, San Andres 3090 ft, pump 28 bbls 28.3-gr oil, 14 bbls wtr, 7000 gals acid 3120-40 ft, td 3560 ft, pb 3151 ft.

Howard County—Failure: Ted Weiner-Lico's G. T. Hall 1, ne ne ne T&P Ry. 48, blk 31, T-1-S, elev 2264 ft, abnd 2988 ft.

Pecos County—Failure: Helmerich & Payne's Barnes 1, c s¼ of s¼ I&GN Ry. 130, blk 10, elev 2455 ft, base Permian 4590 ft, granite wash 4665 ft, granite 4686 ft, abnd 4686¼ ft.

Stonewall County—Failure: Sohio's Ward 1, c nw se H&TC Ry. 257, blk D, elev 2853 ft, 1st hole jkd at 2720 ft, skid 20w, abnd 5340 ft.

WEST TEXAS NEW PAY TEST

Andrews County—Fullerton Ellenburger Discovery: Fullerton Oil Co.'s Wilson 322-A, 1988 ewl 1985 snl PSL 16, Blk A-32, offset 7000-ft Clear Fork prod, elev 3372 ft, San Andres 4450 ft, San Angelo 5600 ft, Tubb 6530 ft, Fullerton 6800 ft, Devonian 8427 ft, Simpson 9235 ft, 1st shale 9320 ft, Ellen 9895 ft, flow 562 bbls 40.6-gr, gor 106/1, natural via 12/64-in fr Ellenburger open hole 9905-9946 ft, td.

WEST TEXAS OUTPOST

Hockley County: Levelland Extension: Magnolia's Coble 1, 660 out nwc lab 34, Lge 68, Hardeman CSL sur, 2¾ mi s extension, elev 3613 ft, San Andres 3896 ft, pump 5 bbls oil, 15% bs&w, 1500 gals acid 4807-67 ft, td 4951 ft, pb 4867 ft.

WEST CENTRAL TEXAS WILDCATS

Eastland County—Gas Discovery: Kerlyn Oil Co.'s A. E. Harrelson 1, c ne sw H&TC Ry. sur 101, blk 3, 1½ mi ne Nimrod, elev 1656 ft, Bend 2785 ft, Marble Falls 3257 ft, Barnett sh 3677 ft, Ellenburger 3783 ft, 4.5 mln gas, 1100 lbs shutin press, Marble Falls pay 3278-86 ft, 20 qts nitro, td 3819 ft, pb 3330 ft.

Shackelford County—Failure: Roeser-Pendleton-Continental's Cook 1-A-35, 220 ft out nec sw¼ E. T. Ry. sect 35, abnd 1209 ft.

Stephens County — Oil Discovery: W. R. Skeen et al's Hatchett 1, 549 snl 995 ewl of sw¼ sect 33, Orphan Asylum Lands, elev 1216 ft, Bend 3402 ft, Marble Falls 3720 ft, Mississippi 4178 ft, Ellenburger 4180 ft, flow 315 bbls 44-gr oil, 70 bbls wtr, gor 439/1, via ¼-in, 750 gals acid Ellenburger perf 4215-18 ft, td 4228 ft.

Taylor County—Failure: Carl Hovgard et al's Swofford 1, 330 out nwc Lbr 54, Lge 149, DeWitt CSL sur, elev 1806 ft, Flippen li 2645 ft, Hope 2793 ft, King sd 2970-85 ft, Swastika 3025 ft, abnd 3045 ft.

SOUTH CENTRAL TEXAS WILDCAT

Kerr County—Failure: Ohio Oil Co.'s C. O. Robinson 1, 660 fr sl 660 fr el ne¼ sect 47 on Dan Auld 13,000-ac blk, TWNG sur 47, abnd 5070 ft.

SOUTHWEST TEXAS WILDCATS

Duval County — Failure: Argo Oil Corp.'s John E. Murphy 1-C, 667.43 fr wl sur 112 and 674.7 s of Duval-McMullen Co. line, BS&F sur, 320-ac lse, abnd 8007 ft.

Webb County — Failure: John F. Camp's Marrs McLean 2, 330 fr sl c e&wl blk 17 Jas. sbdn Garcia tr, Albercas Gr, 1 mi ne Bruni 1 discovery well, abnd 2706 ft.

LOWER TEXAS COAST WILDCATS

Karnes County—Failure: Federal Royalty Co.-Rio Grande Drlg. Co.'s Mrs. Mary Yanta 1, 467 sw of Ecleto Crk, 467 nw of interior cor on el tr 434 w 173 n of same interior cor, 3450 fr wl 328.5-ac tr, John Pickett sur, abnd 7280 ft.

Kleberg County—Monte Negra Discovery: Humble's King Rch-Monte Negra 1, 21,120 ac ra fr nl 18,000 fr el Gertrudis Gr 1050 fr wl 30,439-ac lse, pay 7054 ft, perf 24 shots 7065-73 ft, flow 167.95 bbls 38-gr oil, 0.2% wtr, ⅛-in, gor 645/1, tp 1025 lbs, td 7763 ft.

Live Oak County—Failure: Newman Bros. Drlg. Co.-Rowan & Hope's Fritz Meyer 1, 330 swly at ra fr nely/l, 3301 nwly st ra fr sely/l 151-ac lse, M. G. Frazier sur, abnd 4770 ft.

UPPER TEXAS COAST WILDCATS

Jefferson County—Failures: E. R. Brann et al's Anna Ebner 1, 660 fr n&wl 80-ac lse T&NO sur 57, sect 56, abnd 8760 ft.

Glenn H. McCarthy et al's Herbert Trust 3, 4180 e alg c Port Acres Fannett Rd fr e bank Hillerbrandt bayou th 1524 n at ra on 2300-ac tr, abnd 10,367 ft.

Matagorda County—Failure: Montecito Oil of Dela.'s Denman-Kountz-J. T. Stewart III

The OIL WEEKLY'S TRADING POST

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FOR SALE

■ FOR SALE: Thirty head, young, registered Herefords, 1 WHR herd sire, 10 calves, others springers. Priced right. A. L. Hogan, 2421 Driscoll, Houston, Texas, J-2-4024.

■ FOR SALE: 1—10-ton Autocar tandem truck, oil field equipped. Braden winch, cab over motor, 1938 model, 11x22 rubber. Truck located Great Bend, Kansas. Call Kiowa Drilling Company, Wichita, Kansas.

■ Standard drilling outfit, complete, A-1 condition. New Young 145 HP motor, new 5,000-foot wire lines, $8,900.00. L. A. Boite, Wellington, Ohio. Phone 198-W.

■ FOR SALE: Rotary drilling rig complete. Cardwell Drawworks, International and Wakashaw Motor and Gardner-Denver pump, now operating in western Kentucky. Priced to sell. Get in touch with Ashby Brothers Drilling Company, 1906 St. Clair Avenue, East St. Louis, Illinois.

■ FOR SALE: Following surplus equipment located on lease at Leeville, Lafourche Parish, La.:

Four Heavy Duty Lufkin Pumping Units
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One Parkersburg Drilling Derrick
333M—24′ x 96′
One Parkersburg Pumping Derrick
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One Worthington Compressor
10½ x 4¾ x 12—6000# WP.

Might be interested in selling equipment for oil payment where secured or purchasing producing lease for installation. For additional information write Dallas Petroleum Company, 210 Construction Building, Dallas, Texas, Telephone Central-4900.

■ Late Type Wilson Power Rotary Drilling Rig equipped with hydromatic brake, practically new, capable drilling 8000 feet. Complete in every detail, including 7500 feet first class drill pipe. For particulars telephone 1300 or write P. O. Box 2108, Longview, Texas.

■ CABLE DRILLING machines. Full line cable tools, also elevators, blocks, steam engines, boilers, 50 H.P. We rent fishing tools. S. W. Pressey, Pueblo, Colorado.

POTENTIAL OIL LAND: 274-acre stock and crop farm—on railroad, river and good road seven miles northeast of Waco, Texas. Good hunting. Lake, two sets of improvements including modern brick house and dairy barn, electricity, gas. $100 per acre. E. B. Caldwell, 'phone Waco 5404.

■ FOR SALE: Complete Power Drilling Rig. Now running. Excellent condition with practically new Hopper Hoist powered two WAKU Waukesha engines; 7″ x 14″ Gumbo Buster power pump with Buda engine. For appointment call O'Melveny, Woodsboro, Texas, Phone 93 or Corpus Christi 6422.

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6615 ft.—7.4″ O.D. x ½″ Wall x 27′-29′ lg., SAE1035, NEW, H.R. Seamless Steel Tubing
539 pcs.—2⅜″ O.D. x 8 Rd. thrd. x 4⅞″ New Upset Tubing
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HELP WANTED

■ Cable Tool Drillers for water wells. $1.25 per hour for first-class men. Time and a half for overtime. Write: Libby & Freeman, 711 W. Church St., Orlando, Florida.

HELP WANTED

■ WANTED: By The Superior Oil Company, young men with college background in electronics. Single men preferred. Write P. O. Box 96, Bakersfield, California. Apply 1425 Union Avenue, Bakersfield, California.

■ WANTED: By The Superior Oil Company, young men with college background in geology. Single men preferred. Write P. O. Box 96, Bakersfield, California. Apply 1425 Union Avenue, Bakersfield, California.

■ WANTED: Experienced young geologist, familiar with the oil fields of Southern Oklahoma and North Texas. Box 671, Duncan, Oklahoma.

■ Experienced seismograph Party Chiefs, Computers, Observers, Drillers, and Surveyors. Good opportunity for advancement in expanding geophysical company and eventually for foreign service if desired. Address: Box 10, c/o The Oil Weekly, Houston, Texas.

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are wanted for foreign seismic parties
UNITED GEOPHYSICAL COMPANY
595 East Colorado Street
Pasadena 1, California
822 Thompson Building
Tulsa 3, Oklahoma

NOTICES

NOTICE OF SALE OF OIL AND GAS LEASES

Public auction will be held by the Board of Directors of the Agricultural and Mechanical College of Texas at **3:00 p.m. on Wednesday, January 9, 1946, in the Office of the Business Manager, Room 122, Administration Building, College Station, Texas,** for the purpose of leasing the land occupied by Texas Agricultural Experiment Station —Substation No. 1, near Beeville, Texas, in accordance with the provisions of H. B. No. 150, Acts of the Regular Session of the 45th Legislature, as described herein, for the purpose of prospecting for oil, gas, sulphur and/or other minerals.

The land on which the leases are to be sold consists of four tracts to be leased separately and described as follows:

Tract No. 1, 66.1 acres part of Abstract No. 379, Patent 340, Vol. 30, of date June 30, 1878.
Tract No. 2, 232.1 acres part of Abstract No. 42, Vol. 60, dated August 3, 1835; said tracts No. 1 and 2 conveyed by Federal Land Bank of Houston to State of Texas by deed dated November 4, 1937, recorded in Vol. 117, pages 300 et. seq., Deed Records of Bee County.
Tract No. 3, 65 acres consisting of 62.8 acres part of Patent No. 108, Vol. 9, dated April 13, 1889, and 2.2 acres part of Patent No. 113½, Vol. 22, dated Jauary 18, 1876.
Tract No. 4, 86.5 acres consisting of 21.5 acres part of Patent No. 62, Vol. 31, dated December 6, 1876, and 65 acres part of Patent No. 340, Vol. 30, dated June 7, 1878; said tracts No. 3 and 4 conveyed by John W. Cook to the Governor of Texas by deed dated December 8, 1894, recorded in Vol. Y, pages 50 and 51, Deed Records of Bee County.

The leases on the land offered in this sale will be made on the form prepared by the Attorney General of the State of Texas and approved by the Board of Directors of the Agricultural and Mechanical College of Texas.

The Board of Directors of the Agricultural and Mechanical College of Texas reserves the right to reject all bids.

(Signed)

W. H. HOLZMANN
Business Mgr., Agricultural and Mechanical College of Texas

NOTICES

■ MONEY TO PURCHASE oil loans, oil payments and oil royalties in Texas, Oklahoma and New Mexico. Baptist Foundation of Texas, 201-03 Baptist Building, Dallas 1, Texas.

■ Practical Operator with 20 years experience and versed in fundamental geology, desires contact with company or individual to finance preliminary work in new play now starting in Oregon by major companies. Address: Box 77, c/o The Oil Weekly, Houston, Texas.

NOTICE OF SALE OF OIL AND GAS LEASE

Public auction will be held by the Board of Directors of the Agricultural and Mechanical College of Texas at **2:00 p.m. on Wednesday, January 9, 1946, in the Office of the Business Manager, Room 122, Administration Building, College Station, Texas,** for the purpose of leasing the land occupied by Texas Agricultural Experiment Station —Substation No. 4 near Beaumont, Texas, in accordance with the provisions of H. B. No. 150, Acts of the Regular Session of the 45th Legislature, as described herein, for the purpose of prospecting for oil, gas, sulphur and/or other minerals.

The land on which the lease is to be sold consists of 100 acres in the A. Savery league in Jefferson County, Texas, conveyed by L. W. Zeigler et. al. to the Governor of the State of Texas by deed dated November 22, 1911, recorded in Volume 116, page 497 of the Deed Records of said County. A complete description of the land offered for lease and a copy of the lease form may be obtained free from the undersigned.

The lease on the land offered in this sale will be made on the form prepared by the Attorney General of the State of Texas and approved by the Board of Directors of the Agricultural and Mechanical College of Texas.

The Board of Directors of the Agricultural and Mechanical College of Texas reserves the right to reject all bids.

(Signed)

W. H. HOLZMANN
Business Mgr., Agricultural and Mechanical College of Texas

SITUATIONS WANTED

■ Competent airplane pilot with 18 years flying experience, pilot's license and army training background desires employment patrolling pipe line systems; preferably in Kansas, Oklahoma or Texas. M. L. Russell, 602 North Pershing, Wichita, Kansas.

■ Commercial Airline Pilot with CAA instrument, multi-engine, flight instructor, and radio telephone licenses, desires position as pilot with oil company or industrial organization. Honorably discharged veteran. Total time 3000 hours. Write or wire: M. H. Wilson, P. O. Box 283, Somerville, Texas.

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Capable, competent sales-merchandising manager: 38 years of age: M.E. Degree: 17 years experience oil field equipment sales and service in the Mid-Continent and Eastern fields. Nine years with present employer. Wide acquaintance key purchasing executives of major and independent producers, drilling contractors and supply companies. Present salary $4800 per year and expenses. Free to travel extensively and willing to make headquarters anywhere in United States. Desire to become connected with company where ability will be recognized and future advancement assured. Address: Box 77, c/o The Oil Weekly, Houston, Texas.

ADVERTISING RATES

TRADING POST SECTION

Regular classified advertisements for this special section, set in type this size without border, take flat-rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for the first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

1, 660 fr n&el 140-ac lse 1650 fr wl 1980 fr sl sect 16 I&GN sur blk 8, abnd 8804 ft.

Wharton County—Failure: J. F. Hutchins' Leslie Glaze 1, 2900 fr nl 330 fr wl sect 33 and 407-ac tr, WCRR sur, abnd 5302 ft.

UPPER TEXAS COAST NEW PAY TEST

Galveston County — Hitchcock Discovery: Stewarts Corp.'s Fee 16, 660 n&e of well 14, 1320 n ne at ra fr state hiway 6 990 nw at ra fr Texas City term RR, pay 6521 ft, perf 12 shots 6523-26 ft, flow 162.54 bbls 33.7-gr, ¼-in, gor 387/1, tp 910 lbs, td 6597 ft.

EAST TEXAS WILDCATS

Houston County—Failure: Al G. Hill & Chapel Hill Gas System's Mason 1, 666 fr nel 1385 fr sel Stephen Hatton sur A-494, elev 496 ft, Navarro 4908 ft, Pecan 5300 ft, Austin chalk 6066-6330 ft, Woodbine 6360 ft, abnd 6622 ft.

Limestone County—Failure: Geo. B. McCamey et al's Raborn 1, 2400 fr swl 1650 fr sel J. N. Acosta sur, elev 505 ft, abnd 3775 ft.

Navarro County — Failure: Nu-Enamel Oil Op. Co.'s Budai 1, 1975 fr nel 1250 fr sel Wm. P. Kinkenon sur, Austin chalk 2060-2413 ft, Woodbine 2680 ft, abnd 2854 ft.

NORTH TEXAS WILDCATS

Archer County—Failures: Bell O&G Co.'s Abercrombie 1, 1600 snl 3000 wel sect 157, J. W. Harris sbdn, abnd 2097 ft.

D. H. Bolin et al's Purcell 2, 1360 nsl 2000 ewl blk 80, Jefferson CSL sur, elev 1065 ft, abnd 3703 ft.

NORTH TEXAS NEW PAY TEST

Young County—Strawn Deep Failure: Fain-McGaha's Pace-Strange 3, 150 n 298 w of nwc of sect 2, C. T. Ry. sur, but in A. Rohus sur, Bend 4425 ft, Barnett 5180 ft, Mississippi 5220 ft, pump 84 bbls 10-quart nitro shot 3590-3610 ft, normal pay in field, td 5265 ft.

WESTERN CANADA WILDCATS

South Alberta Plains—Burdett Failure: California-Standard's Burdett-Province 3, lsd 9 25-7-12w4th, abnd 3044 ft, in top of Madison lime.

Conrad Failure: California-Standard's Conrad-Province 17-30B, lsd 16 30-5-15w4th, abnd 3201 ft, in top of Madison lime.

WILDCAT STARTS

ALABAMA

Clarke County: C. V. Carey & Nu-Enamel Corp.'s A. W. Hill 1, nwc 27-9n-1e, lcn.

ARKANSAS

Miller County: G. Anthony et al's W. A. Smith 2, 24-15s-26w, lcn.

CALIFORNIA

Kern County: R. E. Havenstrite, Trustee's, Skelton 1, 11-28s-28e, Round Mt. area, lcn.

Lamb Exploration Co.-Greathouse Oil Co.'s Johnson 1, 36-20s-22e, McKittrick area, lcn.

E. A. Parkford's Parkford 1, 14-27s-28e, Mount Poso area, lcn.

Shell's Parker Fee 88-16, 16-29s-29e, Ant Hill area, bldg rig.

Shell's U. C. 1, 3-25s-18e, Degany Gap area, grade.

Yolo County: Texas Co.'s Hermle 1, 22-11n-1w, Dunnigan Hills area, ru.

Madera County: Union Oil Co.'s Gamble 7, 15-9s-16e, Chowchilla area, lcn.

Los Angeles County: Basin Oil Co.'s Simons 1, 28-2s-14w, Inglewood area, lcn.

Shell's Community 1, 3-4s-12w, Alamitos area, grade.

COLORADO

Weld County: Colorado Unit Oil Corp.'s Kirchof 1, c nw ne 11-6n-61w, Greasewood Flats area, woc.

ILLINOIS

Bond County: H. H. Hubbard's Casper 1, sw se ne 29-4n-3w, lcn.

Clinton County: B. F. Thompson's Reeves 1, ne nw ne 17-1n-1w, lcn.

H. J. Schlafly et al's Schlafly Farms Tr. 1, sw sw ne 18-2n-1w, lcn.

Coles County: B. A. Baker's Miller 1, se ne nw 6-11n-8e, lcn.

Richland County: Superior's Buckels 1, se se nw 13-2n-10e, lcn.

White County: Sohio's Sutton 1, se ne se 19-5s-8e, lcn.

INDIANA

Daviess County: Hoosier Gas Corp.'s Doule 1, se se ne 15-2n-5w, lcn.

Gibson County: Grace Hulman's Milburn Est. 1, nw se se 29-1s-11w, lcn.

W. B. Hoadley's White 1, sw sw sw 30-1s-9w, lcn.

Posey County: F. H. Rhodes' Schmitz 1, nw sw se 33-5s-12w, lcn.

S. C. Yingling's Duckworth 1, sw nw sw 26-7s-14w, lcn.

KANSAS

Leavenworth County: Chas. Miller's Bankers Life 6, ne nw sw 3-10s-20e, sd 400 ft.

Marion County: Ward McGinnis' Loveless 2, ne ne sw 2-19s-4e, lcn.

McPherson County: Don T. Ingling's Simpson 1, nw nw ne 4-21s-1w, lcn.

Reno County: Plains Expl. Co.'s Updegrove 1, sw sw sw 21-22s-9w, lcn.

Rice County: Phil-Han Oil Co.'s Brownlee 1, ne se nw 1-18s-9w, woc.

Tom Palmer's Benhnke 1, se sw ne 36-18s-10w, lcn.

Ed Swearer et al's Ross 1, se se nw 23-19s-8w, lcn.

Riley County: I. Feman's Gravenstene 1, nwc 21-8s-6e, lcn.

Sheridan County: Fred Anschultz's Webber 1, ne ne sw 21-7s-26w, mim.

Stafford County: Ed Swearer et al's Tuckwood 1, nw nw se 24-23s-12w, dr 850 ft.

Ed Swearer et al's Witt 1, sw sw ne 1-23s-13w, mirt.

KENTUCKY

Daviess County: Liner et al's Gerteison 1, 22-Q-30, lcn.

Union County: Ashland O&R's Moore 1, 23-P-20, lcn.

SOUTH LOUISIANA

St. James Parish: Humble's Society of Catholic Religious Ed. & Lit. 1, fr n cor sect 24 go sw alg sel 4256 th se at ra 100 to lcn in 25-12s-4e, 11,000-ft test.

MISSISSIPPI

Holmes County: Cities Service's Will Luster 1, c nw sw 35-14n-2e, lcn.

Jasper County: L. E. Cadenhead's Porter 1, se sw 25-1n-13e, lcn.

Greene County: Humble's Harry Stover 3, nec 20-3n-7w, lcn.

NEW MEXICO

Eddy County: D. C. DeVito et al's State 1, c ne ne 19-23s-26e, 750-ft cable test.

OKLAHOMA

Hughes County: Skelly's Price 1, sw ne nw 26-8n-10e, lcn.

Lincoln County: Stephens Pet. Co.'s Carpenter 1, se se sw 7-12n-2e, c&p.

Portable Drlg. Co.'s Barnes 1, se se nw 11-16n-2e, rur.

Love County: W. F. Turner's Fee 1, se se se 21-7s-1w, mit.

McIntosh County: Leonard A. Chudacoff's Tabor 1, ne sw se 11-11n-16e, lcn.

Pawnee County: J. E. Trigg's Gilchrist 1, se sw se 5-22n-4e, rur.

Seminole County: Globe O&R Co.'s Davis et al 1, sw sw nw 22-9n-7e, dk.

WEST TEXAS

Garza County: J. R. Dunaway et al's Post Est. 1, se se ne sect 11, blk 5, K. Aycock sur, 1¾ mi nw of Post fld, 3500-ft San Andres test, dr 2960 ft.

Hockley County: Stanolind's Mike Veretto 1, 440 out nwc labor 7, Lge 72, Val Varde sur, 2¾ mi se of Levelland field, 5200-ft San Andres test.

Reeves County: Homer W. Snowden et al's C. Y. Griffin 1, c nw ne PSL 25, blk C-12, 4000-ft Delaware cable test.

WEST CENTRAL TEXAS

Jones County: J. D. Andrews et al's J. J. Steele 1, 2075 nsl 6850 wel Harrison CSL sur 334, lcn.

H. L. Hunt's A. C. Braun 1, c sw ne BB&C Ry. 193, 3400-ft Palo Pinto test.

SOUTH CENTRAL TEXAS

Kinney County: Eltex's Biedler Est. 1, 660 fr el 798 fr sl D. G. Gay sur, Dolores Soto de Beales Gr, 20,000-ac lse, 6000-ft test.

LOWER TEXAS COAST

Bee County: Magnolia's E. H. Buckner 1, 225.6 w of ely/l 1259.3 s of nly/l 2311.8-ac lse, 9000-ft test.

W. C. McBride's L. N. Connally 2, 330 se of nwl 330 ne of swl 490.55-ac lse, dr 2530 ft.

Goliad County: R. L. Wheelock et al's Mrs. W. D. Maetze 1, 660 fr n&wl 47.53-ac lse, 7000 fr el 5000 fr nl Gertrudis Barrera sur, 6000-ft test.

Jackson County: Fred W. Manning's Lola Gary et al 1, 990 fr sl 2950 fr el 275-ac lse, J. Mathis ¼ Lge, 6500-ft test.

UPPER TEXAS COAST

Chambers County: Sun's Frankland 1, 4700 sw of nearest Mayes prod 660 fr n&el 875-ac tr and Henry Barger sur, 9500-ft test.

Colorado County: Texas Gulf Prod. Co.'s Earline Landig 1, 757.92 fr nl 1283.79 fr wl 300-ac tr, James Cummins sur, 9000-ft test.

Jefferson County: Sun's Gilbert Est. 2, 8370 s&e of Gilbert 1 disc 1644.7 fr nl 2352 fr el Sara Miles sur, 3359-ac tr, 9300-ft test.

Texas Co.'s M. I. Janes 1, 330 fr s&el 850-ac tr and Manuel Chirno sur, 2¾ mi ne Fannett prod, 9200-ft test.

Wharton County: H. W. Snowden's J. B. Putman 1, 330 fr s&el 170.25-ac tr which is ne¼ sect 43, WCRR sur, 5500-ft test.

EAST TEXAS

Hunt County: Homer W. Snowden et al's V. T. Banks 1, 660 s of m/s/nl 2320 e of m/w/wl of Joseph Hiller sur, 1 mi s Neyland, dk for Woodbine test.

Limestone County: C. W. Killough et al's Belle Arnet 1, 487 sw of nwl 330 nw of sel of 75-ac tr, or 13,000 fr swl 1875 fr sel of Pedro Varella sur, 5 mi nw Groesbeck, rur for Travis Peak test.

NORTH TEXAS

Archer County: Bridwell Oil Co.'s Oil Investment Co. 2-F, 900 snl 1587 ewl of lot 1, sect 125, ATNCL sur, 1500-ft rotary test.

Montague County: S. D. Johnson et al's Gibson-Jennings 1, 330 out nwc blk 77, Kaufman CSL sur, 5000-ft test.

Wichita County: Nat. Assoc. Pet. Co.'s Mrs. L. Proud 1, 238 snl 990 wel blk 189, Waggoner Colony sbdn, 5000-ft Ellenburger test.

Young County: Farmer & Hansen's J. K. Jeffery-Texaco 1, 150 snl 450 ewl of s 20 ac of 80 ac sect 43, TE&L Co. sur, 800-ft test.

Archer County: Fortex Oil Corp. et al's G. Parrish 1, 2140 snl 1520 ewl sect 98, ATNCL sur, 1750-ft rotary test.

C. A. Reid et al's G. D. Prideaux 1, 150 out sec nw¼ sect 1837, TE&L Co. sur, 1400-ft rotary test.

Clay County: H. F. Paul, J. B. Briscoe & N. A. Ferguson's W. L. Malone 1, 600 fr nel 1050 fr nwl of lse, D. E. Brannon sur A-37, 1500-ft rotary test.

Jack County: Continental's T. H. Cherry-homes 1-B, 990 out nec of s½ of e 800 ac of A. Parks sur A-460, 7000-ft Ellenburger test.

Montague County: S. D. Johnson et al's W. B. Rich 1, 330 out m/e/nec of W. S. Harkin sur A-967, 3 mi nw Belcherville, 6000-ft Ellenburger test.

S. D. Johnson et al's Claude Williams 1, 660 s 1320 e of swc of J. A. Hall sur A-1032, but in S. Cary sur A-1142, 6500-ft Ellenburger test, sp.

Wichita County: R. G. Drlg. Co. et al's Henry Krohn 1, 750 snl 450 wel blk 226, Waggoner Colony Lands, 2000-ft rotary test.

Young County: John T. Cox et al's R. W. Davis 1, 330 out sec sect 1, S. P. Ry. sur A-264, 3550-ft cable test.

Oklahoma Scouts Elect

J. E. Austin, Oklahoma Natural Gas Company, Shawnee, was elected president of the Oklahoma Oil Scouts Association December 14. Other officers named were J. E. Rogers, Stanolind Oil & Gas Company, Oklahoma City, vice president; K. A. Heckman, The Texas Company, Ardmore, secretary-treasurer; and Henry Brock, Magnolia Petroleum Company, Oklahoma City, editor of the Oklahoma Division of the National Oil Scouts and Landmen's Association Yearbook.

Pickering Named Editor

The Gulf Coast Oil Scouts Association held a business meeting in Houston last week, which was attended by a number of guests which included Tax King, of Continental Oil Company, Ardmore, Oklahoma, president of the National Oil Scouts and Landmen's Association. Other guests were H. L. Johns, Freeport Sulphur Company, New Orleans, La.; Howard Brooks, Magnolia Petroleum Company, Dallas; Ed Harmen, Republic Natural Gas Company, Dallas; F. D. Johnson, Superior Oil Company, and Dave Fransen, Humble Oil & Refining Company, Corpus Christi.

Roy Pickering, Gulf Oil Corporation, Houston, was elected editor of the Gulf Coast Oil Scouts Association.

SQUEAKS from the BULL WHEEL

Hope Chests

An American soldier in Java met a little Javanese girl who couldn't understand a word of American. He couldn't understand Javanese, either, but he had an idea. He unbuttoned his shirt, pulled it back, and displayed an American flag tattooed on his chest.

"You see?" he pointed out. "Americano! Me friend. Me friend. Me very good friend.'

Whereupon his imitative new acquaintance proceeded to unbutton her blouse, bare her chest, and repeat: "Me friend. Me friend. Me very good friend."

The Cycle of Life

An old man walking down the street noticed a little boy sitting on the curb crying.

"Why are you crying, son?"

"Because I can't do the things the big boys do."

So the old man sat down and cried with him.

No Mo' Moe

A whimsical bugler named Moe
Who thought it funny to blow
His horn at eleven
Is now up in heaven,
Which ain't where they told him to go.

This Curious World

Dairyman's motto: "All that I am I owe to udders."

The blonde wrote a check on her gentleman friend but it bounced back marked "Insufficient fun."

The fat girl's mounrful song: "I want a girdle like the girdle that fooled my dear old dad."

Actual advertisement in an English newspaper: "Owner of tractor wishes to correspond with widow who owns a a modern thresher, object matrimony; send photograph of machine."

Then there was the scotchman who took his girl to the beach but wouldn't buy her a parasol because he knew a lot of shady stories.

Poet's Nook

There was an old rooster
Named Brewster,
A vehement birth control
Booster.
His wives would object
For they knew in effect
That Brewster couldn't run
Like he use-ter.

Encore

Hickory, dickory dock!
The mice ran up her sock;
One stopped at her garter,
The other was smarter—
Hickory, dickory, dock!

Midget Corn

Bartender: "That whiskey, sir, is 20 years old."

Customer: "Rather small for its age, don't you think?"

A certain married lady who was waiting up for her husband received a telephone call at 5 a.m.

Voice: "Hello."

Lady: "Hello."

Voice: "How are you this morning?"

Lady: "Fine."

Voice: "Then I guess I've got the wrong number. Sorry."

Correction, Please

"What is more beautiful to behold than a pretty girl?"

"Such grammar — you mean to be held."

Necessary Evil

"So you want to become my son-in-law, do you?"

"Frankly, no, but I see no way out of it if I want to marry your daughter."

Egg-saggerration

The parrot was sound asleep, so Willie put a big, colored Easter egg inside his cage. The parrot awoke, took a look, and squawked: "That's a dirty lie!"

Holiday Diary

December 26: Snowing. Can't go hunting.

December 27: Still snowing. Can't go hunting.

December 28: Still snowing. Shot grandma.

Roll Out the Barrel

Last week, immediately following the Gulf Publishing Company's Christmas party, which wives and children of all employes attended, Santa Claus, in all his glory (a former Navy man who had spent the previous Christmas at Cherbourg), took off his Santa Claus suit in the office of the father of one of the three-year-old guests. Shortly after he had divested himself of the suit and had left it on a chair in the office, the youngster wandered into the office looking for his daddy.

Suddenly, he rushed out of the office with a wild look in his eye and found his father in a group of men.

"Daddy," he yelled. "They's skinned Santa Claus and left his skin in your office!"

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"Best Bet Yet"

CLEAN RODS

New

PARAFFINE REMOVER STYLE
SUCKER ROD WIPER

Patterson-Ballagh's Sucker Rod Wipers are made in two styles, the regular Universal Style and the Paraffine Remover Style. These wipers offer effective means of completely stripping the rods of oil and muck, no matter how sticky. Both are completely housed and are practically automatic in operation. Each model is available with either plain head or safety cap style head. Release of these heads is easily accomplished by loosening the hammer nuts, allowing the eye bolts to swing free, permitting instant removal.

The wiping is done by self-aligning reinforced discs of tough, wear-resisting PBX Synthetic Rubber. The discs are made in four sizes for wiping 5/8", 3/4", 7/8" and 1" rods. Bodies are cast steel. There is nothing to wear except the easily replaced PBX Synthetic Rubber Wiper.

The Paraffine Remover Style illustrated above has two side outlets for the discharge of excess paraffine, removed by the special cone-shaped refill that is located just at the junction of the two outlets. Patterson-Ballagh Sucker Rod Wipers are time and money savers and mean cleaner production.

See Composite Catalog

Patterson-Ballagh
SUCKER ROD WIPER
Los Angeles 1 Houston 10 New York 6

Increase RESERVES AND PROFITS BY *Secondary Recovery*

EXPERIENCED PRACTICAL CONSULTING
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PRODUCTION ENGINEERING SERVICE

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- Bottom Hole Pressure
- Compressor Plants
- Installation
- Water Treating Plants
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- Estimate of Results
- Valuations
- Supervision

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WICHITA FALLS, TEXAS

ALTEN
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CASING HEADS
with Split Gland and Seat

One of over 300 Alten oil field products.

Fig. A-101

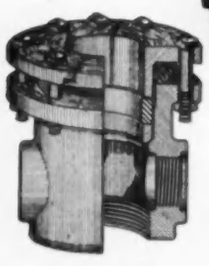

Fig. A-100

See Composite Catalog for complete list or write us for Catalog.

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MEN IN THE INDUSTRY NEWS

J. S. Cosden, Jr., has been elected president of the Reiter-Foster Oil Corporation, succeeding **Sidney F. Kenton,** who continues with the company as vice president. Cosden recently was released from the U. S. Marine Corps after 16 months of overseas duty. Prior to entering the service Cosden was president of Cosco Oil Company and Cosco Pipe Line Company.

G. W. Burdick, chief scout for The Ohio Oil Company at Shreveport, La., has been elected president of the Shreveport District Oil Scouts Association. Other officers chosen include **Gene O'Connor,** The Pure Oil Company, vice president, and **O. J. Robichaux,** Arkansas-Louisiana Gas Company, re-elected secretary-treasurer.

Kelly Scott has resigned from The Superior Oil Company to join the Tennessee Valley Butane Company at Florence, Ala.

Dr. H. B. Stenzel, geologist in the Bureau of Economic Geology, and **Mrs. Helen Jeanne Plummer,** consulting geologist in the Bureau, University of Texas, Austin, have been appointed to the Joint Committee on Zoological Nomenclature for Paleontology in America. The committee was organized by three national societies of paleontologists to aid American scientists in classification and nomenclature of fossils, and to cooperate with the International Commission on Zoological Nomenclature.

Bert Fort has rejoined Shell Oil Company's Louisiana Division as exploitation engineer, located in the Lake Charles headquarters. As a reserve officer in the corps of Engineers, Fort was called to active duty at Camp Blanding, Fla., early in 1942. He was later assigned to the air corps and stationed at Kelly Field, Tex. When separated from the Army, he held the rank of captain. A native of Missouri, Fort has been in the employ of Shell since 1935.

Eugene McElvaney has been elected a director of the Tennessee Gas and Transmission Company. McElvaney is vice president of the First National Bank of Dallas and has charge of the bank's oil and gas department.

J. R. (Bill) Pemberton, Los Angeles petroleum engineer, has been named to succeed the late **Dr. John C. Merriam** of Pasadena as a member of the board of governors of the Los Angeles County Museum of History, Science and Arts.

Earle W. Webb, president of Ethyl Corporation, has accepted the chairmanship of the Petroleum Division of the Industry Section in the $4 million campaign being conducted by the Memorial Cancer Center Fund, New York.

Gordon D. Bachemin has gone to Caracas, Venezuela, where he will become assistant to the general district superintendent for the Creole pipe line. He is a former Humble Pipe Line Company employe and has been out of the Navy ten months.

Leo F. Connell, Washington, D. C., has been named special consultant on petroleum matters to the foreign liquidation commissioner.

Connell served PAW 3½ years as assistant director of construction and assistant director of materials.

A 1925 graduate of the University of Delaware, Connell was employed by Sun Oil Company at Philadelphia in a refinery engineering capacity. He is a member of the American Petroleum Institute.

W. W. Porter II has been elected chairman of the new Pacific Petroleum Chapter of AIME, composed of petroleum members of the Southern California Section and Junior Section. Named Councilors were **Carlton Beal, Norris Johnston, Howard C. Pyle, H. van Wingen, T. H. Acres, John McMillan, John DeHetre and Tom Atkinson.**

Dr. Grant Corby, geologist, and **A. E. Ireland,** drilling superintendent, Los Angeles, will leave for the Philippines soon after the first of the year to resume their work with the Far East Oil Company and the commonwealth government's National Development Company. Both were engaged in the government's oil exploration program before the war.

Alvin H. Stack, president, Tampa Gas Company, Tampa, Fla., has been elected a director of American Gas Association, to fill a vacancy caused by the election of **Hudson W. Reed,** Philadelphia Gas Works Company, Philadelphia, as vice president of the association.

Gordon H. Lovejoy has been promoted to superintendent of the order and distribution division of Continental Oil Company, Ponca City, Okla., effective January 1, succeeding **L. J. Morgan,** who retired December 31 after having served Continental for more than 40 years. Lovejoy has been with the company since 1924.

Jay B. Wharton, Jr., has been released by the Navy and has returned from active duty in the South Pacific to resume his pre-war position as geologist and micro-paleontologist with Bates and Cornell, consulting petroleum geologist and engineers of Lafayette, La. He was a senior grade lieutenant, specializing in photographic interpretation. **Mark W. Mitchell,** formerly geologist for Sinclair Refining Company in Mexico and more recently petroleum engineer with the Severance and Power Tax Unit of the Louisiana State Treasury Office in Baton Rouge, has resigned to join Bates and Cornell.

Alfred B. Egan has been appointed sales manager, Reinforcing Products Division, Sheffield Steel Corporation, Kansas City, Missouri. He has been with the company for 16 years and for a greater part of this time was in charge of the Des Moines, Iowa, office.

Alfred B. Egan

From 1942 until March of this year, he was in charge of Sheffild's Washington, D. C. office. Last March he was appointed district manager, Chicago District.

Homer McLaughlin, geologist at Norman, Okla., who specializes in Western and Southwestern Oklahoma, has opened offices in the Tradesman's National Building, Oklahoma City.

Charles Edgerton, district landman for Cities Service Oil Company at Jackson, Miss., is being transferred to the company's land office at Lafayette, La., effective January 1.

R. B. Smith has been released from the Navy and has taken charge of scouting in the Ardmore, Okla., district, for The Superior Oil Company of California; **E. R. Gilley,** also just out of the service, has taken over in the district for The Atlantic Refining Company, and **B. B. Barber** for Tide Water Associated Oil Company.

Major Don D. Taylor, formerly with The Ohio Oil Company in the Lance Creek field, Wyoming, has returned from Japan after having served with the First Cavalry through the Pacific campaign.

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CORPUS CHRISTI, TEXAS

C. B. Smythe of Elyria, Ohio, has been elected president of The Thew Shovel Company, Lorain, Ohio. He will succeed his father, **F. A. Smythe,** who died November 8, after serving 46 years as the first and only president of the company. C. B. Smythe joined Thew in 1910 following his graduation from Massachusetts Institute of Technology, Boston. He was elected vice president in 1920.

C. B. Smythe

Alvin Summers has been made division superintendent of the Gulf Coast Division of Sunray Oil Corporation, with headquarters at Victoria, Texas. He was formerly district superintendent of the Northern Oklahoma district.

John R. Suman, vice president and director, Standard Oil Company (New Jersey), has been named chairman of the Oil Bowl, Inc., sponsors of the Oil Bowl football game between Tulsa and Georgia in Houston New Year's Day.

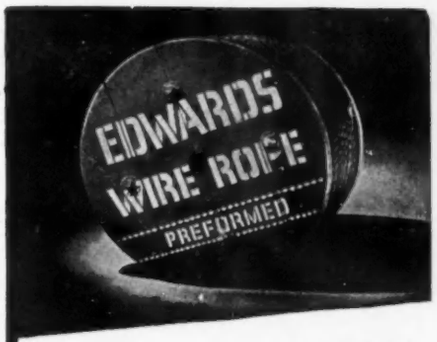
Lloyd Fesler has been named connection foreman for Empire Pipe Line Company at Cushing, Okla., succeeding L. M. Stubblefield, who was transferred to the Lindsay, Okla., area.

T. A. Carew, for 21 years associated with British American Oil Company, has been appointed manager for the company at Kelowna, B. C., succeeding **Jack Ward,** retired. Carew was resident manager at Nelson for 12 years, at Vernon for 6 years, and at Revelstoke for 2½ years.

William H. Geis has resigned as director of public relations for Union Oil Company to enter the oil well drilling contracting business in California.

Avery Van Campen, for the past ten years employed by Clark Brothers Company, Inc., in the experimental, engineering and sales departments at Olean New York, has been appointed to the New York sales office as district engineer. For the past three years Van Campen has been job engineer on a National Defense Research Committee contract at Clark Brothers Company in Olean.

Avery Van Campen



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E. H. EDWARDS COMPANY

MEN IN THE INDUSTRY NEWS

Fred V. Bailey has been appointed district manager of The Garlock Packing Company, Birmingham, Alabama. He succeeds **W. A. Redd, Jr.**, who recently retired after 35 years with the company.

Jim Cowan has returned to the sales department of Cameron Iron Works, Houston, after five years in the Army Air Forces, in which he held the rank of lieutenant colonel.

Bingham H. Van Dyke has been appointed manager of the new products department of Elliott Company, Jeanette, Pennsylvania. He has been assistant to the director of research and development, and before joining the Elliott organization was deputy chief of the WPB Heat Exchanger and Pressure Vessel branch. After graduation from Cornell University, he was with The Atlantic Refining Company, and later with Griscom-Russell Company.

Features

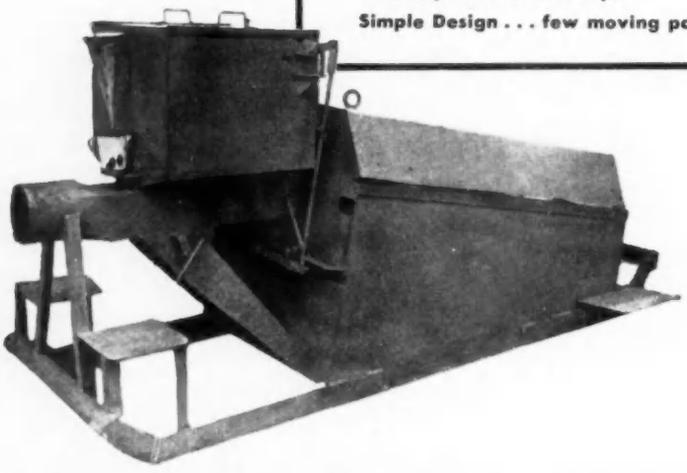
Mud Driven . . . no motors, engines or gears.

Perfected, easily accessible sample Catcher.

Chemical Mixer available.

Valve controlled by-pass to direct mud past screen into pit.

Simple Design . . . few moving parts.



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The importance of mud in modern drilling techniques necessitates the use of a dependable, thorough-cleaning mud screen. The SIW MUD SCREEN is the answer to this need. Its many proven features assure outstanding performance. Its approximately 36 sq. ft. of standard mesh Rek-tang screen, rotating on the screen drum, thoroughly removes shale, abrasives, cuttings, etc., from the mud.

It has no motors . . . no engines . . . no gears. The screen is driven by the mud flow through a power wheel which is an integral part of the rotating screen.

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ODESSA, TEXAS

Oscar H. D. Rohwer, vice president of the Universal Atlas Cement Company, Chicago, United States Steel Corporation subsidy, will retire December 31. He will be succeeded as head of the western region by **Fred T. Wiggins,** former sales manager, Birmingham, and more recently assistant to the vice president, New York.

Rohwer has served with Universal Atlas since 1907 except for a period of two years. Joining Universal Atlas as a salesman, Rohwer has been special representative, division manager, assistant general sales manager and since 1937, vice president. He also has been in charge of oil well cement sales in the Mid-Continent oil field.

Dr. **Parke A. Dickey** will speak on "Geology and Secondary Recovery of Oil" at the joint meeting in Evansville, Ind., of Indiana-Kentucky and Illinois geological societies January 4.

R. J. **Daugherty,** superintendent of the public relations department of Cities Service Oil Company, has been named to the advisory committee of the Bartlesville, Okla., Veterans' Service Office.

Deaths

Charles E. Anstie, 51, who resigned recently as vice president and general manager of Shell Oil Company of B.C., Ltd., died at his home in Vancouver, B.C. He was president of the Council of Associated Boards of Trade of British Columbia, and had been with Shell since 1921.

George W. Tooley, 64, associated with Kewanee Oil and Gas Company at Sperry, Okla., died December 23, in Tulsa. He had resided in Oklahoma since 1918 and was well known in Mid-Continent oil circles.

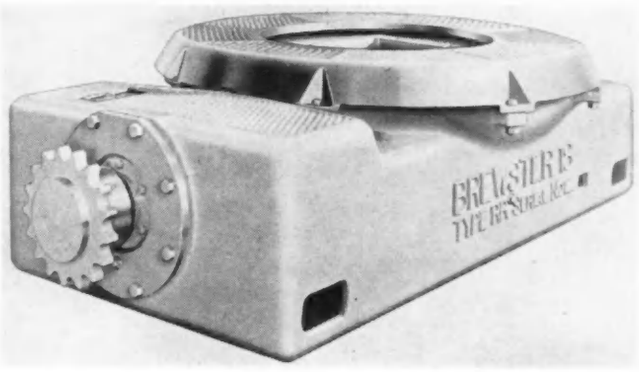
J. A. Stinson, an active developer of the Bristow, Okla., oil pool, died December 22 in Tyler, Tex. He was born in Vernon, Tex., and moved to Tulsa in 1918. He resided there until 1930 when he returned to Texas. He was an active independent and had been associated in Oklahoma with **R. S. Matthews.**

Josh H. Glass, assistant purchasing agent for Kewanee Oil and Gas Company, Tulsa, died December 18 following a heart attack. He was 44 and had resided in Tulsa since 1909.

John H. Younts, pioneer Oklahoma oil man, died December 12 in Tulsa at the age of 91. He went to Oklahoma from Missouri in 1900 and for 26 years was connected with the old Prairie Oil & Gas Company at Keifer, Okla.

1—Rotary

The Brewster Company, Shreveport, has announced a new heavy duty, high speed 18-inch full table opening Model RR 18 Rotary. Modern engineering features enable this machine to meet all drilling requirements to depths of 8000 feet.



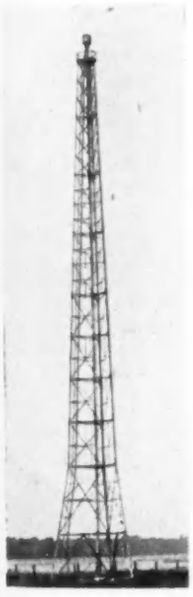
The table, rated at 167 tons at zero revolutions per minute, rotates on an angular contact ball bearing containing twenty-five 2½-inch steel balls. This bearing rotates in an oil bath well protected by seals to keep the oil in and foreign matter out. Up thrust and radial loads are absorbed by an extra large bronze bushing independently lubricated with grease.

Bevel gears, also running in oil, transmith the power to the table. Gear ratio is 3.33 to 1. Double row tapered roller bearings support the pinion shaft and are lubricated by an oil chamber built into the pinion shaft housing. Shaft, gears and bearings are designed to take high speed loads with minimum care and attention for the life of the machine. Maximum rated table speed is 400 R.P.M. Distance from center of the table to center line of sprocket is 44 inches.

The positive-acting lock engages the table skirt so that shock loads are not transmitted through gears and pinion shaft. The lock is on the driller's side for convenience and safety.

2—Flare Tower

Recent installations of flare towers at refineries and natural gasoline plants have introduced a new type of triangular tower design for disposal service. The towers are used for supporting stacks which burn and dispose of the excess gases that are waste products of the processing industry.



This excess gas being high in sulphur content cannot be released into the air and is burned at a safe altitude in sufficient quantity to dispose of the entire waste product. A height of 200 feet has been determined as a safe altitude when the stack is placed several hundred feet from adjacent processing or storage equipment. However, consideration is to be given to the safety problem in relation to extremely hazardous locations.

IDECO flare towers are furnished in standard heights of 175 feet and are designed to support a vertical pipe up to 24 inches in diameter. This pipe or stack extends up into the air approximately 25 feet above the top of the tower.

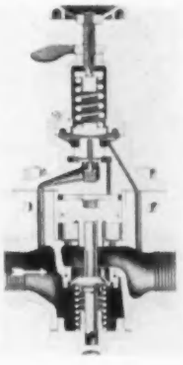
Similar in design to high radio towers, it is of triangular shape and tapers in size from the base upward. This type of design has been selected after the safety records established over a period of years in radio broadcasting service had been completely checked. The field service record of a major manufacturer of triangular towers is 100 percent. Not one tower has failed in service.

Engineering problems in this type tower include the selection of the correct design for resisting heavy wind loads imposed on the tower and the pipe stack. It necessitates the proper designing of joints to offset the variation in expansion between the tower and the stack and the suitable arrangement of ladders and platforms required for servicing and maintenance of the equipment. A tower that is hot dip galvanized after fabrication will provide lower maintenance costs because of resistance to the additional heat element added to the natural corrosive enemies.

Present installations of triangular flare towers are McKamie Gas Cleaning Company's at McKamie, Ark.; The Atlantic Refining Company's at Point Breeze, Philadelphia; and Tide Water Associated Oil Company's at Bayonne, N. J.

3—Air Reducing Valve

Leslie Company, Lyndhurst, N. J., has announced an improved type of internal pilot operated air reducing valve known as Class L-1A, for application wherever an air reducing valve is required.



The manufacturer states that among the main features of the valve are its stability under all flow conditions, and its responsive instant reaction to sudden variations in load. Plastic inserts in the valve seats provide positive tight shut-off.

All wearing parts are renewable and interchangeable. The valve is available in sizes from ½-inch through four inches, and is designed for initial pressures up to 400 pounds air pressure and reduced pressures from 5 to 300 pounds per square inch. A smaller valve is available for accurate control of small air valves.

4—Soldering Irons

The Industrial Heating Division of the General Electric Company, Schenectady, N. Y., has a new line of industrial soldering irons, ranging from 75 to 300 watts in size and available with tips from ⅜ to 1¼ inches in diameter. The irons are designed primarily for severe and exacting soldering operations where fast, continuous, high quality soldering is required. They are also said to be suitable

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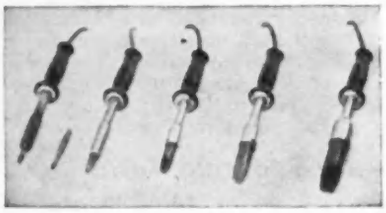
for light, medium, and heavy intermittent soldering.

An important feature of the irons is their quick recovery and high reserve-heat capacity, which permits soldering



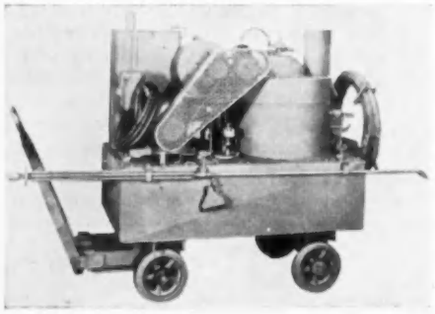
as fast and continuously as the character of the work allows. Another feature is the use of calorized (surface-alloyed with aluminum) copper and 18-8 stainless steel for all parts subjected to high temperatures. This, with the Calrod heating unit, assures long life, uniform performance, low maintenance, and allows convenient renewal. The heating units can be easily replaced, since only simple connection must be unsoldered in order to slip a new unit into place. The chisel-shaped copper tips are also calorized, which retards corrosion, facilitates easy renewal, and permits the tip threads from "freezing" to the tip holders. The irons are also furnished with Ironclad copper tips. The working ends of the tips are surfaced with iron, which will not amalgamate with the tin in the solder, as copper does. Hence pitting and erosion of the tips are obviated and, consequently, filing is unnecessary.

Sturdily constructed, these irons are well balanced and their plastic handles are cool and easy to grip.

5—Steam Cleaning Unit

Oakite Products, New York, has developed a multiple-duty steam cleaning unit, known as the Oakite-Vapor Cleaning Unit.

It is a self-contained, down-draft flame



unit, oil-fired, enclosed coil-type steam generator that delivers hot vaporized cleaning solutions under selective pressures up to 200 pounds for removal of grease, grit, grime, paint and other deposits from surfaces. A wide range of fuel oils such as No. 1, 2 or 3 fuel oil, kerosene or gasoline may be used, and the unit may be used on many different types of light and heavy-duty cleaning.

The unit is ruggedly built, has maximum reserve power, and can operate two steam guns simultaneously at high working pressures.

6—Truck

The Eisenhauer Manufacturing Company, Van Wert, Ohio, announces a new type truck especially designed for fast, long-distance hauling. The vehicle is known as the Eisenhauer Twin Engine, and has a payload capacity of approximately 20 tons through special arrangement of wheels.

Among features of the truck is the use of four front steering wheels for commercial use to secure greater load capacity through better distribution. Four front wheels in tandem relation rather than dual relation eliminate the need of power steering. The truck has three rear axles, including two driving or "live" axles, with a "dead" axle between. Dual wheels are on all three rear axles, and singles on the two front axles. Remote spacing of the live axles makes for maximum traction.

Overall length of the truck is 35 feet with a truck bed of 25 feet, meeting length requirements for highways in practically all states. The frame is rigid, but has flexible type suspension.

The truck is powered by two 93-horsepower motors mounted in line. One is under the hood and the other beneath the cab. The front motor is directly connected to the front rear axle and the rear motor to the rear-most axle. The motors can be used together or independently. Power selection can be made at the will of the driver at any road speed while in gear, accomplished by means of a differential type synchronizer. The torque output of the two engines is balanced by a torque equalizer actuated by manifold pressures.

Spring suspension is another feature which involves the use of a plurality of axles under a vehicle wherein some of the axles are laterally shiftable. Adequate lateral movement takes place in the wheels and axles when the vehicle is making turns. The springs of the adjacent axles are provided with compensating means which provides extreme flexibility and insures proper contact of the wheels under all road conditions.

Standard 1½-ton truck parts are used through with the exception of the frame and suspension.

Use the Coupon

For free copies of Manufacturers' Literature or more information on products described on these pages, use the convenient mailing coupon on page 69.

Literature

7—Oil Field Units

Detroit Diesel Engine Division, General Motors Corporation, Philtower, Tulsa, has published a bulletin on General Motors oil field units.

A feature of the bulletin is the explanation with a phantom view of the method of compounding two or four engines into one output shaft.

8—Valves

Farris Engineering Company, Palisades Park, N. J., has published catalog No. 45, describing safety and relief valves, and including many new designs as well as improvements in old designs.

A "ready-reference pictorial index chart" shows line drawings of all the basic valve types. With this chart a valve user can pick out the valve he needs without having to thumb through the catalog. Opposite the pictorial index chart is a detailed index showing what the valve can be used for and where to find its specifications in the catalog.

Another feature of the catalog is that each valve has a four-digit type-number which immediately indicates the design, the applications, and the connections of the valve.

9—Arc-Welding Accessories

Air Reduction, New York, has issued a catalog on arc-welding accessories. The 12-page booklet illustrates and describes a complete line of accessories for all types of arc-welding machines and operations.

Types of equipment covered include electrode holders, graphite electrodes, welding cable, cable connectors, and cable lugs.

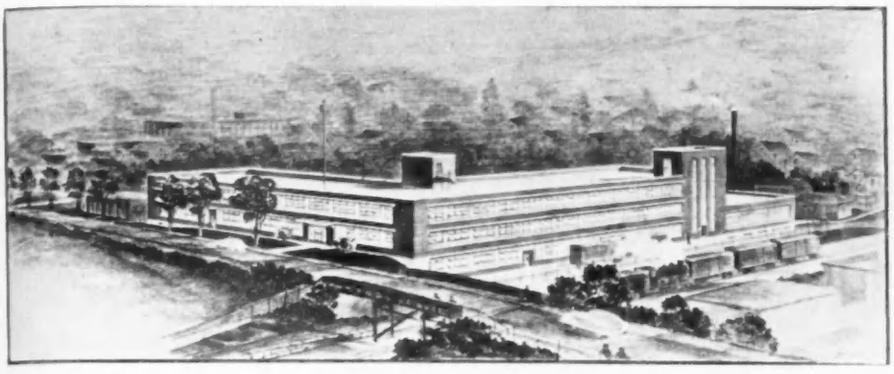
An additional section is devoted to Airco Heliwelding equipment which was developed in response to pressing demands for a better method of welding magnesium.

10—Diesel Engines

Caterpillar Tractor Company, Peoria, Ill., has issued a booklet, "Long-Life Expectancy," dealing with the working life of Diesel engines.

The 16-page publication provides a representative cross-section of owners' engine experience, gained and recorded under the conditions of everyday work in many fields.

Manning, Maxwell, Moore Plant Nears Completion



The new plant of Manning, Maxwell & Moore, being built for the manufacture of Hancock products, at Watertown, Mass., will be ready for occupancy shortly after January 1.

The plant will provide greatly increased facilities with much more floor space. The sales department for Hancock products will be moved from Bridgeport, Conn., to Watertown, and M. S. Palmer will be department manager.

Byron Jackson Officials on Visit To European Countries

Robert Harcus

O. W. Morgan

Lynn Sawyer, vice president and general manager of the Pump Division of Byron Jackson Company, Los Angeles, accompanied by O. W. Morgan, sales manager, oil tool division, and Robert Harcus, foreign representative, are visiting England and the European continent.

Lynn Sawyer

The purpose of their visit is to consult with hydraulic and petroleum engineers in England, France, Belgium and the Netherlands concerning future requirements for centrifugal pumps, submersible motors, and oil well drilling and production tools.

Wire Cloth Firm To Handle Fuel, Iron Company Sales

The California Wire Cloth Corporation, west coast subsidiary of Colorado Fuel and Iron Corporation, will manage sales and service operations of California Fuel and Iron Corporation on the Pacific Coast.

This new sales set-up puts the California Wire Cloth Corporation in charge of sales of all products of The Colorado Fuel and Iron Corporation, Wickwire Spencer Steel Division, Wickwire Spencer Metallurgical Corporation, Coburn Trolley Track Division, and American Wire Fabrics Corporation.

The territories served by the new arrangement will comprise Washington, Oregon, California and Nevada.

Maloney Tank Manufacturing Becomes Maloney-Crawford

Maloney Tank Manufacturing Company of Tulsa has added the name Crawford, and is now the Maloney-Crawford Tank and Manufacturing Company. Harold D. Crawford recently purchased a substantial interest in the Maloney firm, and is secretary-treasurer of the concern.

Personnel changes in the Maloney-Crawford organization are as follows: S. P. Wallace is general sales manager, with headquarters in Dallas; L. Glenn Rader is division manager at Houston; Arthur J. De laHoussaye is district manager in New Orleans; W. B. Brawner is district manager for Southwest Texas, with headquarters in Corpus Christi; E. C. Kopp is division manager for North and West Texas, with headquarters in Fort Worth; Dugan Blakeney is Odessa representative, and also R. H. Guthrie, H. H. Guthrie, and Frank Gurtler; D. E. Amy is representative at Lafayette, La., and C. E. Henderson is representative at Lake Charles, La.; C. L. Pirtle, J. B. Graham and Miss Alice Wolf are employed in the Houston office; Carl Folkner is promoted to division manager in charge of New Mexico, Colorado, and Wyoming; and F. L. Bruckner has joined the sales department with headquarters in Tulsa.

Kropp Installs Equipment

The Kropp Forge Company, Chicago, has installed special furnace equipment for the production of all types of nonferrous metals. World War II created a heavy demand for many bronze, aluminum and magnesium forgings and postwar uses indicate increased use of this type of material.

"Red Wheel"

VALVES, HYDRANTS

Write for Catalog No. 34

CHECK VALVE

GATE VALVE

M & H valves are used in the oil industry for water, gas, steam, oil, chemicals and are furnished in all commercial sizes from 2" to 30", inclusive. They are cast iron body, bronze mounted, furnished double disc parallel seat or solid wedge. They are heavily proportioned and have a high factor of safety.

OTHER M & H PRODUCTS

Fire Hydrants
Gate Valves
Tapping Valves
Special Castings
Tapping Sleeves
Check Valves
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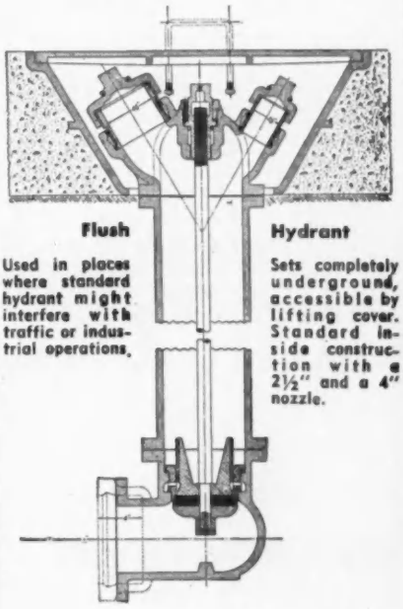
Extension Stems
Mud Valves
Flap Valves
Sludge Shoes



Flush

Used in places where standard hydrant might interfere with traffic or industrial operations.

Hydrant

Sets completely underground, accessible by lifting cover. Standard inside construction with a 2½" and a 4" nozzle.

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SEATS and BALLS

- Available in a grade to meet the individual well pumping problem.
- Furnish longer continuous runs.
- Fewer pulls for replacement.
- Insure more fluid lift economy.

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STANDCO BRAKE LINING
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Standco Brake Lining Co.
HOUSTON

BE SURE TO CHECK THE
TRADING POST SECTION
ON PAGE 63 OF THIS ISSUE

B. F. Goodrich to Construct Processing Plant In Ohio

The B. F. Goodrich Company will construct a plant for the processing of plastics near Marietta, Ohio.

The plant, to be located on a 66-acre tract of land on the west bank of the Muskingum River, will consist of a main building having a floor area of 112,000 square feet with auxiliary and service buildings adding 48,000 additional square feet, the company stated. Cost of the entire project will be approximately $4 million and construction will be started shortly.

On completion the plant will employ about 250 men and women and the company's investment will represent at least $16,000 for each job created by the new manufacturing operation.

Federated Metals Company Opens Indiana Laboratory

Federated Metals Division, American Smelting and Refining Company, has opened a $100,000 physical testing laboratory at the company's Whiting, Ind., plant.

The laboratory is equipped with all of the latest developments in metallurgical equipment, including physical testing apparatus and modern spectrographic equipment.

Gottwald Is Latin-American Representative for Rockwell

H. (Red) Gottwald, for 17 years a service engineer for Pittsburgh Equitable Meter Company-Nordstrom Valve Company in the metropolitan New York territory, has been assigned to the Rockwell International Corporation. Rockwell International Cooperation is the new name for the organization formed as Pittsburgh International Corporation to handle export sales and service of the company's products. Gottwald has been appointed special representative for Latin America by A. L. DiGiulian, vice president and general manager of the export firm. He is now making a preliminary trip covering the important markets in South America.

Westinghouse Buffalo Motor Plant To Be In Operation Soon

Westinghouse soon will have a new motor plant in operation at Buffalo, N. Y. About 6000 persons will be employed there compared with the 4000 now in motor production in the parent plant, at East Pittsburgh.

Motor production will run more than 80 percent higher than in the peacetime years of 1937-1939, and about 50 percent above the peak year of 1940, according to company officials. The output will approximate 300,000 horsepower when operations reach full swing in the Buffalo plant.

International Harvester Opens West Coast Motor Truck Plant

International Harvester Company has established its first Pacific Coast motor truck manufacturing plant at Emeryville, California, in the San Francisco Bay area.

The Emeryville Works will produce six models of heavy-duty trucks, especially designed for the highway and off-the-highway needs of truck operators in the eleven western states.

Chemical Firm Sold

B. F. Goodrich Chemical Company has acquired the assets of the Hycar Chemical Company, including the trade names. Hycar products will now be marketed by the new owner.

Advertisers' Index

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